

County Borough of Brighton.

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# ANNUAL REPORT

ON THE

## HEALTH,

## SANITARY CONDITION, &c.,

OF THE

## COUNTY BOROUGH OF BRIGHTON,

FOR THE YEAR 1901.

BY

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1902.

# COUNTY BOROUGH OF BRIGHTON.

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## Sanitary Committee.

THE MAYOR (MR. ALDERMAN STAFFORD, J.P.),  
MR. ALDERMAN BUCKWELL,  
MR. COUNCILLOR BLAKER (Chairman),  
" " BROWN,  
" " BUTT-THOMPSON,  
" " GALLIERS,  
" " HOLLIS,  
" " HOLLOWAY,  
" " McCLEAN,  
" " SMITHERS,  
" " SONE,  
" " TITCOMB.  
" " WESTON.

Town Clerk: MR. FRANCIS J. TILLSTONE.

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## Staff of the Public Health Department.

### INSPECTORS.

JOHN NORRISH (Certif. San. Institute), Assistant Inspector of Nuisances.  
JAMES A. CUCKNEY " " " " "  
(Superintendent of Abattoir).  
ERNEST E. MILLS " " " " "  
Inspector under the Factory and Workshops  
Act and Shop Hours Act).  
FREDERICK BRAYBON (Certif. San. Institute) " "  
ARTHUR WARD " " " "  
JOSEPH WEBB " "  
JOHN SHARP " "  
ALFRED WELLSTEAD " "  
FREDERICK SALVAGE, " "  
JOHN BAKER, Disinfecter. " "  
BENJAMIN PACKHAM, Senior Clerk.  
ALBERT WOOD, Junior Clerk.

Matron of Sanatorium: Miss RATCLIFF.

House Physician and Deputy to Medical Officer of Health.

W. H. de WYTT, M.B., Glas., D.P.H. Oct., 1900-March, 1901.  
W. H. DAWSON, M.B., Edin., D.P.H., April-Sept. 1901.  
W. C. ELLIS, L.R.C.P., D.P.H., Oct.-Dec., 1901.

### Chief Inspector of Nuisances.

JAMES F. SKINNER (Certif. San. Institute).

Medical Officer of Health: ARTHUR NEWSHOLME, M.D.

## PREFACE.

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TOWN HALL,

*March 29th, 1902.*

*To the Sanitary Committee of the Brighton Town Council.*

GENTLEMEN,—

My Annual Report, presented herewith, gives complete details of every branch of work carried out in my Department. The facilities for bacteriological diagnosis, and the important measures against tuberculosis which have been undertaken during the last two years are new branches of work to which an increasing share of my time will need to be devoted in the future.

The death-rate, from all causes, as will be seen from the summarised statement on page 7 has steadily declined, the death-rate for last year having been lower than for any series of years in the past. The death-rate from Typhoid Fever also shewed a most gratifying reduction (page 33). The efforts which we have made to impress the public as to the danger of eating shell-fish derived from sewage-polluted estuaries are now bearing fruit.

The Sanitary Staff and the Staff of the Borough Sanatorium have carried out their work during the past year with assiduity and devotion; and they, like myself, appreciate the continued confidence in our work which you have shewn.

I am, Gentlemen,

Your obedient Servant,

*Arthur Newsholme, M.D.*

*Medical Officer of Health.*

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## A.—VITAL STATISTICS.

### POPULATION.

The population of Brighton was enumerated on the 1st April, 1901, and the preliminary census report has been issued. The figures given in this report do not comprise particulars as to age and occupation, and the data given are subject to revision in the final report; but as any alterations made will not materially affect the totals, a summary of the preliminary report so far as it affects Brighton is given here.

#### *Parliamentary Borough of Brighton.*

	1891.	1901.	Increase of Population.
Inhabited Houses ... ..	23,569	26,654	
Population ... ..	142,129	153,393	11,264

#### *County Borough of Brighton.*

	1891.	1901.	Increase of Population.
Inhabited Houses ... ..	19,543	21,648	
Population ... ..	115,873	123,478	7,605

#### *Municipal Borough of Hove.\**

	1891.	1901.	Increase of Population.
Inhabited Houses ... ..	4,391	6,257	
Population ... ..	28,335	36,542	8,207

The average number of persons per house in Brighton in 1891 was 5·93, and in 1901 it had declined to 5·74. In Hove the average number of persons per house was 6·45 in 1891 and 5·85 in 1901.

The number of houses and population of the different parts of the Parliamentary Borough of Brighton are as follows :—

	Inhabited Houses.		Population.	
	1891.	1901.	1891.	1901.
County Borough of Brighton ...	19,543	21,648	115,873	123,478
Parish of Hove ... ..	4,009 }	5,006	26,097	29,702
Parish of Preston Rural ...	17 }		159	213
Total Parliamentary Borough	23,569	26,654	142,129	153,393

\* The enumerated population in 1891 as well as in 1901 relates to the area of the enlarged Borough.



The population of Aldrington at the recent census was 6,840, in 1891 it was 2,238.

The Parish or Registration District of Brighton is now divided into Eastern and Western Registration Sub-Districts. The population of these Sub-Districts is given in the following table :—

*Registration District and Sub-Districts.*

	Area in Statute Acres	Inhabited Houses.		Population Enumerated.		Increase or Decrease of Population between 1891 and 1901.	
		1891	1901	1891	1901	Increase	Decrease
East Brighton ...	1,062	8,751	9,339	52,695	55,425	2,730	—
West Brighton ...	567	8,549	8,311	50,021	46,895	—	3,126
Registration District of Brighton ...	1,629	17,300	17,650	102,716	102,320	—	396

The number of persons per inhabited house in the eastern registration sub-district was 6·02 in 1891 and 5·93 in 1901; the number in the western registration sub district was 5·85 in 1891 and 5·64 in 1901.

The portion of the Parish of Preston within the County Borough contained 3,998 inhabited houses at the last census, or 5·29 persons per inhabited house, as compared with 5·87 persons per inhabited house in 1891.

In the following table the preceding results, so far as they relate to the County Borough, are stated in a comparative form :—

*Number of Persons per Inhabited House.*

				1891	1901
Parish of Brighton	East	...	...	6·02	5·93
	West	...	...	5·85	5·64
Preston	...	...	...	5·87	5·29
County Borough of Brighton				5·93	5·74

The population of each Ward is given in the table on page 11

### BIRTHS.

The total number of births registered in the Borough in the 52 weeks ending December 28th, 1901, was 2,984,—1,495 of boys and 1,489 of girls. This is equivalent to a birth-rate of 24·1 per 1,000 inhabitants, as compared with 23·8 in the preceding year.

Of the births, 174 were illegitimate. The total number of births in the Workhouse was 64, of which 54 were illegitimate.

### DEATHS.

During the year 1901, 2,042 deaths were registered by the Registrar-General as belonging to Brighton, viz. : 1,032 of males and 1,010 of females. This shews an annual death-rate of 16·5 per 1,000 of estimated population, as compared with 17·8 in 1900, and an average death-rate of 17·6 during the last ten years.

The general course of the death-rate in Brighton for a series of years has been as follows :—

				<i>Death-rate from all causes.</i>	
Ten years —	1851-60	...	...	...	25·0.
"	"	1861-70	...	...	25·6.
"	"	1871-80*	...	...	20·5.
"	"	1881-90	...	...	18·8.
"	"	1891-1900	...	...	17·6.
"	"	1901	...	...	16·5.

The average death-rate in the 33 great towns during 1901 was 18·6 ; in London, 17·6 per 1,000.

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\* In 1874, Preston was incorporated with the Municipal Borough.

TABLE I.—1901, County Borough of Brighton.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		DEATHS UNDER ONE YEAR OF AGE.		DEATHS AT ALL AGES, TOTAL.		DEATHS IN PUBLIC INSTITUTIONS.	Deaths of Non-registered residents in public institutions within the Borough.	Deaths of Residents registered in public institutions beyond the Borough.	DEATHS AT ALL AGES NET.	
		Number.	Rate.	Number.	Rate per 1,000 Births registered.	Number.	Rate.				Number.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1891	116,000	3031	26·1	417	137	—	—	329	—	—	—	—
1892	116,780	2958	25·3	447	151	—	—	303	—	—	—	—
1893	117,520	2981	25·3	504	169	—	—	358	—	—	—	—
1894	118,260	3055	25·8	420	137	—	—	371	—	—	—	—
1895	119,010	3057	25·7	503	164	—	—	360	—	—	—	—
*1896	119,760	3025	25·3	416	124	—	—	369	—	—	—	—
1897	120,510	2986	24·8	428	144	—	—	381	—	—	—	—
1898	121,270	3035	25·0	544	179	—	—	386	—	—	—	—
1899	122,040	3058	25·1	530	173	—	—	447	—	—	—	—
1900	122,860	2920	23·8	484	166	—	—	501	—	—	—	—
Averages for years 1891-1900	119,421	3011	25·1	469	156	—	—	421	—	—	—	—
1901	123,668	2984	24·1	483	162	2093	16·9	485	68	8	2025	16·4

\* 53 weeks.



Table I. shows that the total deaths registered in Brighton during 1901 was 2,093. Of these 68 were non-residents, occurring in public institutions in the Borough. Eight deaths of residents of Preston occurring in Shoreham Workhouse are also credited to the death-rate of Brighton. The total net death-rate is therefore 16·4, the death-rate according to the Registrar-General 16·5 and the gross death-rate 16·9 per 1,000.

### DEATH OF VISITORS.

Of the total 2,093 deaths registered in Brighton during last year, 75 occurring in private houses, 51 in the County Hospital, and 11 in the Children's Hospital, 1 in the Throat and Ear Hospital, 4 in the Workhouse and 1 in the Lying-In Hospital were stated to be of visitors. The return of deaths among visitors is incomplete, many of the deaths occurring amongst visitors not being marked as such. The County Hospital in particular draws a considerable number of patients from surrounding districts, as will be seen from the following table of deaths in that institution :—

	1898.	1899.	1900.	1901.
Deaths of Inhabitants of Brighton ... ..	73	90	89	102
Deaths of persons from the rural districts of Sussex, &c. ... ..	27	21	17	31
Deaths of persons from Hove ... ..	7	7	6	17
Deaths of persons from London, &c. ... ..	8	2	2	3
Addresses not known ... ..	1	—	*	—
	—	—	—	—
Total Deaths in the Sussex County Hospital	116	120	114	153
	—	—	—	—

Thus, taking the average of four years, 29·2 per cent of the total deaths in the County Hospital were of non-residents.

Of the 45 patients dying in the Children's Hospital during 1901, five came from Hove, two from Newhaven, one from Seaford, one from Shoreham, one from Shermanbury and one from London.

Of the two patients dying in the Throat and Ear Hospital, one came from Leeds.

Of the six patients dying in the Lying-In Hospital, one came from Hove.

The Registrar-General excludes from the Brighton returns the deaths occurring in the Female Convalescent Home, Marine Parade, in the Sussex County Hospital, and in the Borough Sanatorium respectively, of persons who had not resided in the Borough prior to their admission into these respective institutions; and includes on the other hand the deaths of any Preston paupers which occur in the Steyning Union Workhouse. Fifty-one deaths of outsiders occurred at the County Hospital and none in the Convalescent Home. The result of the correction carried to this extent is to reduce the total 2,093 deaths by 51. No correction is made by the Registrar-General for the Children's Hospital and other institutions in the town and no account is taken of the much larger number of visitors who die in Brighton, but not in any public institution in it.

#### DEATHS IN PUBLIC INSTITUTIONS.

Of the total deaths, 208 occurred in the Workhouse, 153 in the Sussex County Hospital, 45 in the Children's Hospital, 58 in the Sanatorium, 6 in the Lying-In Hospital, 4 in the Barracks, 8 in the Shoreham Workhouse, 2 in the Throat and Ear Hospital, and 1 in the St. Mary's Home.

#### INFANTILE MORTALITY.

The infantile death-rate for each ward, beginning with the ward having the lowest death-rate, were as follows:—Pavilion 105, Preston Park 120, Montpelier 122, Lewes Road 135, Regency 142, Pier 153, St. John's 154, Preston 155, Hanover 164, Queen's Park 174, Kemp Town 176, St. Nicholas 203, West 233, St Peter's 248 deaths under one year per 1,000 births.

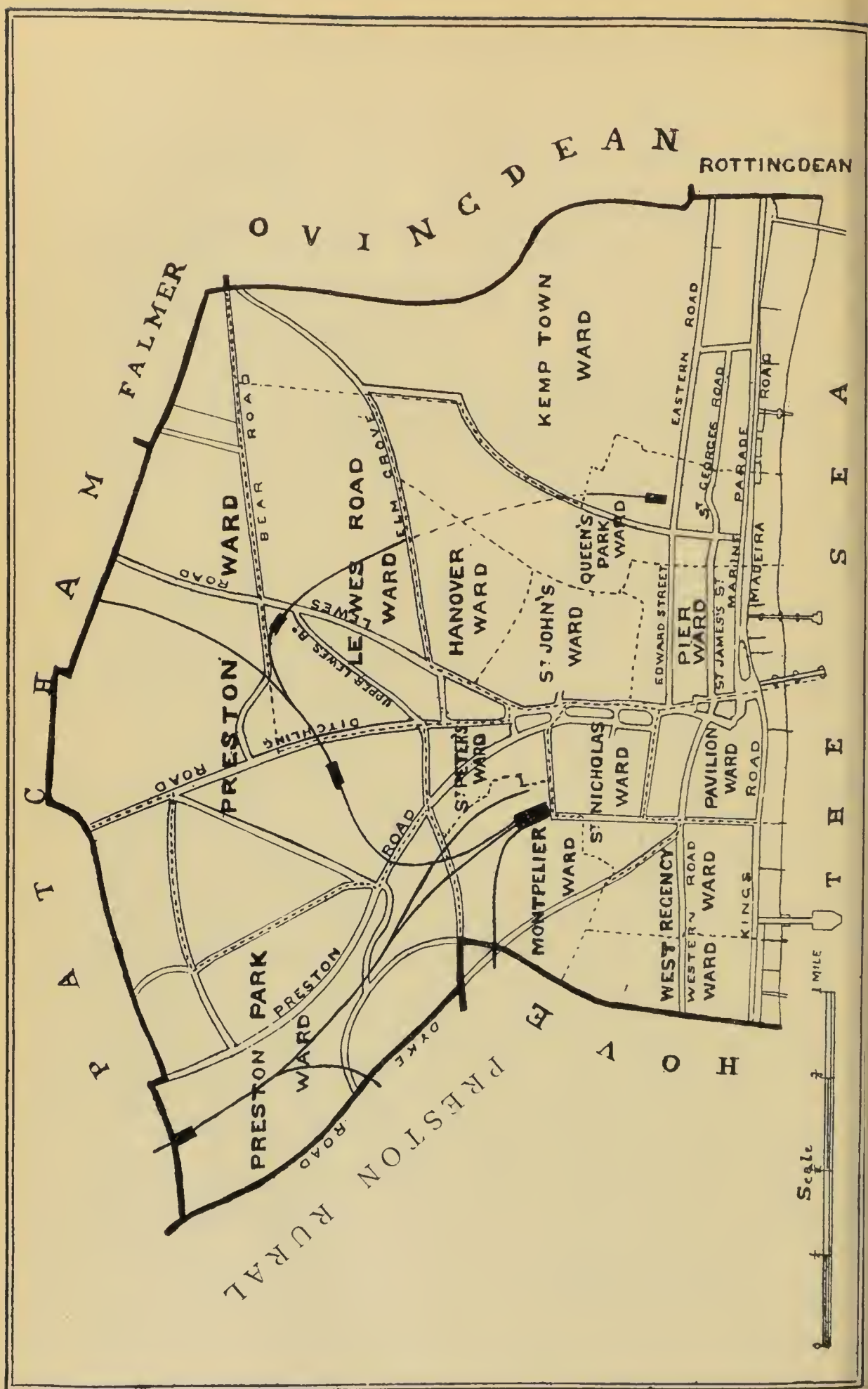
*Mortality among Illegitimate Infants.*—The total number of deaths under one year of age in 1901 was 483. Of this number 54 were illegitimate children. Stated in proportion to numbers living, the relative mortality among legitimate and illegitimate infants was as follows:—

	1897.		1898.		1899.		1900.		1901.
Deaths of legitimate infants									
per 1,000 legitimate births	135	...	169	...	199	...	156	...	153
Deaths of illegitimate infants									
per 1,000 illegitimate births	265	...	316	..	354	...	345	...	310

TABLE II.—Mortality according to Wards.

Names of Wards.	1. KEMP TOWN.				2. QUEEN'S PARK.				3. PIER.				4. PAVILION.				5. REGENCY.				6. WEST.				7. MONTPELIER.			
	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.
1899	—	113	107	13	—	220	167	30	—	254	249	50	—	91	79	17	—	102	122	13	—	42	91	8	—	76	108	15
1900	—	114	125	25	—	201	161	39	—	242	237	51	—	79	51	2	—	99	124	16	—	46	79	7	—	76	90	16
1901	7150	108	90	19	8424	218	154	38	10487	241	202	37	4561	67	61	7	7523	127	113	18	4869	30	80	7	5887	74	86	9
Names of Wards.	8. ST. NICHOLAS.				9. ST. JOHN'S.				10. HANOVER.				11. LEWES ROAD.				12. ST. PETER'S.				13. PRESTON PARK.				14. PRESTON.			
	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.
1899	—	205	178	38	—	434	263	77	—	394	245	96	—	407	245	64	—	239	176	45	—	163	97	16	—	314	192	44
1900	—	236	166	42	—	376	243	61	—	384	208	70	—	394	273	64	—	229	168	36	—	156	89	20	—	300	189	35
1901	9173	218	178	44	11987	376	221	58	11235	367	199	60	13371	457	215	62	7653	218	168	54	7986	193	93	25	13172	291	182	45





The following table shows the Classification of Deaths from all causes, according to age and sex.

Ages.	Males.	Females.	Persons.
0-3 months... ..	123	111	234
3-6 „ ... ..	51	46	97
6-12 „ ... ..	87	65	152
Total under 1 year ... ..	261	222	483
1-2 years ... ..	48	39	87
2-3 „ ... ..	22	15	37
3-4 „ ... ..	16	11	27
4-5 „ ... ..	8	8	16
Total 1 to 5 years ... ..	94	73	167
5-10 years ... ..	48	30	78
10-15 „ ... ..	10	10	20
15-25 „ ... ..	33	42	75
25-35 „ ... ..	55	43	98
35-45 „ ... ..	76	70	146
45-55 „ ... ..	84	86	170
55-65 „ ... ..	124	119	243
65-75 „ ... ..	118	126	244
75-85 „ ... ..	107	139	246
85 and upwards ... ..	22	50	72
Total No. of deaths ... ..	1032	1010	2042

#### DEATHS AND SICKNESS ACCORDING TO SEASONS.

Table VII. gives the weekly deaths from the chief causes of death. In the following table the incidence of notifiable infectious diseases, according to the months of the year, is shewn.

TABLE III.—*Number of Cases notified in each month of 1901.*

	Diphtheria and Membranous Croup.	Scarlet Fever.	Typhoid Fever.	Erysipelas.	Puerperal Fever.
January ...	73	18	7	14	1
February ...	46	22	2	8	—
March ...	39	8	5	9	1
April ...	36	9	1	9	2
May ...	38	11	2	3	—
June ...	29	11	3	4	1
July ...	87	21	1	7	—
August ...	57	13	2	8	—
September ...	51	20	3	4	1
October ...	103	14	6	7	—
November ...	77	13	9	10	2
December ...	66	16	5	10	1
	702	176	46	93	9



TABLE IV.

CAUSES OF DEATH IN BRIGHTON DURING THE YEAR 1901.	Total Deaths.	SEX.		0—1	1—5
		Male.	Female.		
Small Pox ... ..	—	—	—	—	—
Measles ... ..	12	6	6	4	5
Whooping Cough ... ..	26	9	17	14	11
Enteric Fever ... ..	6	4	2	—	—
Diarrhœa ... ..	86	47	39	70	7
Epidemic Enteritis ... ..	24	9	15	22	2
Diphtheria ... ..	64	37	27	4	33
Scarlet Fever ... ..	1	1	—	—	—
Puerperal Fever ... ..	7	—	7	—	—
Erysipelas ... ..	6	2	4	5	—
Influenza ... ..	25	13	12	2	—
Syphilis ... ..	12	5	7	10	1
Tetanus ... ..	1	1	—	—	—
Ulcerative Endocarditis ... ..	8	3	5	—	—
Vaccinia, or Vaccination Accidents	1	—	1	1	—
Pyæmia ... ..	3	3	—	1	—
Malaria ... ..	1	1	—	—	—
Phthisis ... ..	164	95	69	—	1
{ Tubercular Enteritis ... ..	10	4	6	3	2
{ General Tuberculosis ... ..	24	18	6	4	1
{ Tubercular Meningitis ... ..	33	20	13	7	10
{ Other Tubercular Diseases ... ..	6	4	2	—	—
Rheumatic Fever and Rheumatism of Heart ... ..	9	5	4	—	—
Alcoholism ... ..	11	11	—	—	—
Cancer ... ..	132	44	88	—	—
Premature Birth ... ..	68	34	34	68	—
Developmental Disease ... ..	113	61	52	99	13
Old Age ... ..	151	48	103	—	—
Meningitis ... ..	9	7	2	3	2
Inflammation and Softening of Brain	4	3	1	—	—
Organic Diseases of Heart ... ..	51	21	30	—	—
Acute Bronchitis ... ..	137	60	77	34	14
Chronic Bronchitis ... ..	35	15	20	2	—
Lobar Pneumonia ... ..	12	8	4	1	1
Lobular Pneumonia ... ..	60	34	26	34	16
Diseases of Stomach ... ..	15	6	9	2	2
Obstruction of Intestines ... ..	16	6	10	4	—
Cirrhosis of Liver ... ..	32	15	17	—	—
Bright's Disease ... ..	48	23	25	—	1
Tumours and other Diseases of Female Genitals ... ..	5	—	5	—	—
Accidents and Diseases of Parturi- tion ... ..	7	—	7	1	—
Accident and Negligence ... ..	49	27	22	10	7
Suicide ... ..	7	4	3	—	—
Ill-defined ... ..	10	5	5	5	—
All other causes ... ..	541	313	228	73	38
Total number of Deaths ...	2042	1032	1010	483	167

TABLE IV. (*contd.*)

AGES AT DEATH.									
5—10	10—15	15—20	20—25	25—35	35—45	45—55	55—65	65—75	75 and upwards
—	—	—	—	—	—	—	—	—	—
3	—	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—	—
—	—	—	1	2	2	—	1	—	—
1	—	1	—	—	1	1	—	2	3
—	—	—	—	—	—	—	—	—	—
26	1	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—	—
—	—	—	2	4	1	—	—	—	—
—	—	—	—	—	—	—	—	1	—
1	1	—	2	—	2	1	3	11	2
—	—	—	—	1	—	—	—	—	—
—	—	—	—	—	1	—	—	—	—
—	1	—	1	1	2	—	2	—	1
—	—	—	—	—	—	—	—	—	—
—	—	—	—	1	1	—	—	—	—
—	—	—	—	—	—	1	—	—	—
2	2	14	14	32	48	28	16	7	—
—	3	2	—	—	—	—	—	—	—
6	2	2	1	3	1	1	3	—	—
11	—	—	1	1	2	1	—	—	—
—	1	3	—	—	—	—	1	1	—
2	3	—	—	1	2	1	—	—	—
—	—	—	—	—	1	7	3	—	—
—	—	—	—	3	3	29	47	32	18
—	—	—	—	—	—	—	—	—	—
—	—	—	1	—	—	—	—	—	—
—	—	—	—	—	—	—	4	19	128
3	—	—	—	—	1	—	—	—	—
—	—	—	—	1	—	—	1	—	2
1	2	1	3	2	4	6	16	9	7
2	—	—	—	3	2	3	16	28	35
1	—	—	—	—	2	1	8	11	10
—	—	1	1	2	1	3	—	1	1
1	—	—	—	1	1	—	2	4	1
—	—	1	—	3	2	3	1	1	—
—	—	—	—	—	1	—	2	5	4
—	1	—	—	2	10	9	7	3	—
1	—	1	—	3	5	9	12	11	5
—	—	—	1	—	2	1	1	—	—
—	—	—	—	2	4	—	—	—	—
3	—	1	4	—	6	6	2	4	6
—	—	1	—	2	1	2	1	—	—
—	—	—	—	—	—	1	—	4	—
12	3	9	6	28	37	56	94	90	95
78	20	37	38	98	146	170	243	244	318

## CHIEF CAUSES OF DEATH.

The chief causes of death, and the number of deaths from each important disease are tabulated in Table IV. This table is a summary of a more detailed table kept for reference in my office.

## THE NOTIFICATION OF INFECTIOUS DISEASES.

On March 1st, 1891, the Infectious Diseases (Notification) Act was adopted.

The returns furnished to me under this Act shew that the number of *cases* of Infectious Diseases notified during 1901 was:—Diphtheria, 698; Membranous Croup, 4; Scarlet Fever, 176; Enteric Fever, 46; Erysipelas, 93; Puerperal Fever, 9.

The above is the number of supposed *cases* of infectious disease.

Six cases of Diphtheria, two of Erysipelas, one of Scarlet Fever, one Enteric Fever, were notified severally by two doctors, chiefly in connection with their removal to hospitals.

The total number of notifications (including 32 by myself) was 1,036, as compared with 1,456 in 1900. Of these, 121 occurred in public medical practice—the amount payable for the certificates being £6 1s.; while 883 occurred in private medical practice—the amount payable being £110 7s. 6d. The total amount paid for notification certificates was £116 8s. 6d.

The cost of administering the Infectious Diseases (Notification) Act in each complete year since its adoption in Brighton, is as follows:—

YEAR.	COST OF NOTIFICATION FEES PAID TO MEDICAL PRACTITIONERS PER 1,000 OF POPULATION.								
								s.	d.
1892	...	...	...	...	...	...	..	11	3
1893	...	...	...	...	...	...	...	17	3
1894	...	...	...	...	...	...	...	10	0
1895	...	...	...	...	...	...	...	10	1
1896	...	...	...	...	...	...	...	11	9
1897	...	...	...	...	...	...	...	12	0
1898	...	...	...	...	...	...	...	18	0
1899	...	...	...	...	...	...	...	32	5
1900	...	...	...	...	...	...	...	26	7
1901	...	...	...	...	...	...	...	18	10

For particulars as to the Notification of Phthisis, see page 35.

*Cases of Infectious Disease Notified during the Year 1901.*

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE BOROUGH.										TOTAL CASES NOTIFIED IN EACH WARD*.														No. OF CASES REMOVED TO HOSPITAL FROM EACH WARD*.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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			Under 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.																													65 and upwards.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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\* The Wards can be identified by their numbers in Table II.



## SMALL POX.

During 1901, I was asked to see, on various occasions, a considerable number of patients who were suspected to be possibly suffering from Small Pox. In only three of these was the diagnosis doubtful, and these were removed to the Sanatorium and isolated. One of the three proved to be undoubtedly Chicken Pox, the diagnosis of the other two remaining doubtful. Every precaution, including vaccination of "contacts," was taken, and no further cases occurred.

*The Prevention of Small Pox.*—In the prevention of infectious diseases, certain general principles are involved to which Small Pox is no exception. (a) The sick must be strictly isolated. (b) Those who have been exposed to the disease must be kept under surveillance until it is certain that they are not incubating it, or until it begins. (c) All infected persons and articles must be efficiently disinfected. These measures are common to all infectious diseases, and they are more especially necessary in Small Pox, the infection of which is more persistent of life and apparently strikes at greater distances than that of other infectious diseases.

As in the case of Measles and Scarlet Fever, there is not the slightest evidence of any relationship between defective sanitation, like imperfect sewerage or bad water supply, and the prevalence of Small Pox. Like these other diseases it is, however, spread more easily when there is overcrowding, and consequent free contact between the sick and the healthy, and therefore spreads more easily among the poor than among the well-to-do.

For the communication of an infectious disease, two things are necessary, the seeds of infection and a soil in which these seeds can grow. One attack of an infectious disease like Measles or Small Pox usually exhausts the soil and prevents a further attack of the same disease in the same person. The protection from a previous attack usually lasts to some extent throughout life but it tends to die out; consequently, attacks of Measles or of Small Pox in those who have previously suffered from the same disease occur, though but rarely.

For Scarlet Fever it has been proved, and for Measles it is highly probable, that the liability to be attacked diminishes as childhood is left behind. So if a person can be kept free from these diseases in childhood, he will probably escape in later life. Small Pox also is a disease to which children in the past have been particularly prone; and for them it was a most virulent and fatal disease. During the second half of the 19th century, however, our national death returns show that while the average death-rate from Small Pox at all ages has declined to a remarkable extent, the deaths from Small Pox that still occur have been transferred to a large extent from childhood to adult life.

In 1848-54, 43 per cent. of the total deaths from Small Pox occurred at ages 1 to 5, but in 1888-94 only 10 per cent. of the total deaths from Small Pox at all ages occurred at these ages. Thus Small Pox, which was formerly chiefly an infantile disease, has now become chiefly a disease of persons aged 10 years and upwards. No explanation, in my opinion, is capable of accounting for this, except



the fact that infantile vaccination has, during this period, become fairly general, protecting children from attack, but the protection wearing out as age advances, just as the protection from a previous attack of Small Pox tends to die out.\*

That vaccination should furnish similar protection to that furnished by a previous attack of Small Pox is in accordance with everything we know of the nature of infectious diseases. One attack of an infectious disease protects against a later attack, and vaccination has been shewn to be Small Pox modified and attenuated by its passage through the system of a calf, the result being that it now produces vesicles only at the point of inoculation instead of all over the body as in Small Pox.

The evidence of the protective value of vaccination against Small Pox is simply overwhelming, when considered apart from the bias and prejudice in

\* The Weekly Return of the Registrar-General for April 12th, 1902, contains particulars of the 1,015 deaths from Small Pox which have occurred in London during the present epidemic. The complete table given below is most conclusive of the life-saving powers of vaccination. Not a single death from Small Pox has occurred among those who had been efficiently vaccinated or re-vaccinated within the last 10 years, and only 7 among those who had been re-vaccinated more than 10 years ago.

	AGES AT DEATH.								
	All ages.	Under one year.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 40.	40 to 60.	60 and upwards
Vaccinated—									
In Infancy only ... ..	457	—	1†	—	5	16	260	154	21
Since Infancy, or not known when...	4	—	—	—	—	—	3‡	1§	—
Re-Vaccinated—									
More than 10 years ago ... ..	7	—	—	—	—	—	1	4	2
Less than 10 years ago, but before infection by Small Pox ... ..	—	—	—	—	—	—	—	—	—
After infection by Small Pox only ...	13	—	—	—	—	—	10	3	—
Not vaccinated until after infection by Small Pox ... ..	53	24	11	3	3	3	8	1	—
Unvaccinated ... ..	398	56	112	58	37	41	72	20	2
Doubtful—									
Said to have been vaccinated, but scars, if any, obscured ... ..	66	—	—	3	4	1	33	19	6
No statement as to vaccination; scars, if any, obscured ... ..	6	—	—	—	—	1	1	3	1
No evidence of vaccination ... ..	11	—	—	—	2	—	5	3	1
Total ... ..	1015	80	124	64	51	62	393	208	33

† Imperfectly vaccinated.      ‡ Including one case vaccinated 24 years before death.

§ Vaccinated 31 years before death.

The above group of 53 may be excluded from the comparison as the Small Pox was in the system when vaccination was done. In the vaccinated group, including those of whose vaccination there was doubt, only 4 out of 564 or 0·7 per cent of the total deaths occurred in children under 10; in the unvaccinated group 226 out of 398 or 56·8 per cent. occurred in children under 10. No explanation of the difference is possible except that infantile vaccination protects for a number of years, and that this protection then gradually wears off.

The total number of deaths among the certainly vaccinated was 481. The total number of deaths among unvaccinated was 398. It needs to be remembered that these deaths occurred out of unequal populations. The unvaccinated population of London is probably only one-fifth of its total population or less. Thus if the incidence of deaths from Small Pox had been equal in the two groups, the deaths among the unvaccinated ought to have been 80 instead of 398. Or the deaths among the vaccinated ought to have been 1990 instead of their actual number 481.

which it has unfortunately become involved. It is the one infectious disease with which doctors, nurses, sanitary inspectors and disinfectors can come into intimate and constant contact without that risk of infection which they incur in attending on cases of other infectious diseases. Given that they are re-vaccinated, their protection against Small Pox is almost absolute. Similarly in a community, every member of which has been successfully re-vaccinated (i.e., in whom the vesicles of vaccination have been produced), the occurrence of an epidemic of Small Pox is as impossible as the growth of grass on a cement pavement, or as a similar epidemic would be in a community, every member of which had recently suffered from Small Pox. It is not necessary that I should labour this point by statistics beyond those given in the footnote (page 19). They, like the facts of individual experience, are overwhelmingly in favour of vaccination.

Much stress has been laid on the risk associated with vaccination. With modern antiseptic precautions these risks are negligible, and the temporary discomfort of a possibly inflamed arm, which is a small matter in comparison with the important protection secured, may be ignored.

Our local degree of protection against Small Pox, so far as this is ensured by primary vaccination, is shewn by the following percentages calculated from data supplied me by Mr. Clifford, the Vaccination Officer. The figures refer only to the Parish of Brighton.

The Act admitting the conscientious objector came into operation in 1897, the number receiving certificates under this enactment in that year being 2, 29 in 1898, 51 in 1899, 69 in 1900, and 32 in the first half of 1901. The following is the number out of every 100 births in each year, who were unaccounted for either by being vaccinated, or being certified as insusceptible to vaccination, or having died unvaccinated, or having been postponed by medical certificate, or having removed to districts of which the vaccination officers have been apprised.

Year.	Percentage unaccounted for and probably unvaccinated.						
1895	...	...	...	...	...	...	6·2
1896	...	...	...	...	...	...	5·4
1897	...	...	...	...	...	...	13·8
1898	...	...	...	...	...	...	14·1
1899	...	...	...	...	...	...	21·7
1900	...	...	...	...	...	...	12·2
First half of 1901	...	...	...	...	...	...	17·6

The presence of such a large percentage of unvaccinated children in Brighton is a source of great danger, should first cases of Small Pox escape detection and the disease gain headway before it is detected. The presence of a Small Pox scare tends to reduce this number, and what is almost as important persuades a large proportion of the population to renew their protection against Small Pox by being revaccinated. This renewed protection is of greater importance in view of the fact that in the past the vaccination performed by certain medical practitioners has been unsatisfactory and insufficient, although the work done by the public vaccinators and by other doctors has been thoroughly efficient.

Vaccination in only a single place and vaccination stated to be successful when it is not certain that the vesicles of vaccinia (vaccination) have been produced mislead the public in two ways; firstly, the parents have a false sense of security regarding their children; and secondly, such children, if they acquire Small Pox, are classified among the vaccinated. Notwithstanding this "watering down" of the efficacy of vaccination, as indicated by statistics, its efficacy as a protective agent against Small Pox is overwhelmingly evident in all the published statistics. It is right, however, that parents should be warned of the necessity of insisting on what is known to be efficient vaccination. The responsibility of those who mislead the public on this important question is very great, and may be most serious if, in the absence of the efficient protection given by vaccination and revaccination, a widespread epidemic of Small Pox should occur.

### SCARLET FEVER.

The incidence of Scarlet Fever since notification came into operation is shewn in the following table. The epidemic of 1899 declined during 1900, and during 1901 only 176 cases occurred.

					Number of cases per 100,000 of population.	Number of deaths per 100,000 of population.	Case-mortality Number of deaths per 100 cases notified.
1892	...	...	...	...	320	7	2·1
1893	...	...	...	...	408	9	2·2
1894	...	...	...	...	185	3	1·6
1895	...	...	...	...	164	4	2·5
1896	...	...	...	...	206	5	2·3
1897	...	...	...	...	270	10	3·7
1898	...	...	...	...	305	6	2·0
1899	...	...	...	...	667	8	1·2
1900	...	...	...	...	474	10	2·1
1901	...	...	...	...	142	1	·6

*Notification of Doubtful Cases.*—Scarlet Fever caused only one death during 1901. This indicates the extreme mildness of the present type of this disease. This has caused failure to recognise it in a considerable number of instances. The meshes of the Infectious Disease (Notification) Act are, in fact, too large to catch all the cases of the present type of Scarlet Fever, and, as I have pointed out elsewhere,\* the time is ripe for asking the legislature for notification of suspected as well as fully recognised cases of this disease and of Diphtheria (see page 26). In November and December last a number of cases of Scarlet Fever, associated with cases in which the only manifestation of Scarlet Fever was the occurrence of sore throat, came under observation. These were caused by an infected milk supply. A full account of these cases is given in the *Journal of Hygiene* for April, 1902. Until such anomalous suspicious attacks of illness as well as definite cases of Scarlet Fever are notified, we cannot hope to obtain

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\* Presidential Address at the Eastbourne Public Health Congress, 1901.



the full measure of the possible utility of our isolation hospital. At present we may be isolating one patient while an unnotified atypical case is continuing to spread infection. This fact is no argument against hospital isolation, but indicates the desirability of power to enforce some measure of isolation for suspected cases. The notification of such suspected cases would enable us to link case with case by a chain of evidence as to infection, and thus much more effectually prevent its transmission. At present we are frequently baffled by absence of information as to these intermediate attacks of an anomalous character. I have continued in the present report the statistics as to Scarlet Fever given in my last annual report.

*Tests of utility of Isolation Hospital.*—The utility of our Isolation Hospital in preventing the spread of Scarlet Fever may, to some extent, be gauged by the number of secondary and subsequent cases occurring in the same household after removal. During 1901, out of households from which cases of Scarlet Fever were removed to Hospital, two cases occurred in fourteen houses, 3 cases in five houses, and four cases in one house. Three other cases occurred in a large institution for poor girls, and two cases were brought to a cottage in Brighton from a school outside the Borough. The relationship between the first and the subsidiary cases is shewn in Tables A and B.

TABLE A.

*Subsidiary Cases of Scarlet Fever in Households from which the 1st Patient was removed to Hospital before the onset of the 2nd Patient's attack.*

Onset of 1st case and of 2nd case.			Number of days elapsing between Removal of 1st case and Onset of 2nd case.		
Days.			Days.		
		Cases.			Cases.
			1	...	1
			2	...	3
3	...	3	3	...	1
4	...	1	4	...	1
5	...	1	5	...	1
6	...	2	7	...	1
9	...	1	15	...	1
17	...	1	17	...	1
18	...	1			

TABLE B.

*Subsidiary Cases of Scarlet Fever in Households from which the 1st Patient was only removed to Hospital at the same time as or later than the 2nd Patient.*

Number of days elapsing between Onset of 1st and 2nd Cases.							
							Cases.
Same day	...	...	...	...	...	...	3
1 day	...	...	...	...	...	...	2
2 days	...	...	...	...	...	...	1
5 „	...	...	...	...	...	...	1
10 „	...	...	...	...	...	...	1
Doubtful	...	...	...	...	...	...	1

In addition to the above, 28 patients were treated at home. Among these one secondary case occurred. The two imported cases previously referred to, which were treated in an isolation cottage, are not included in the above results.

In regard to 68 hospital-treated cases and 15 home-treated cases, the necessary particulars for inclusion in the following table, which summarises our results for three consecutive years, were obtainable :—

TABLE C.  
1899-1901 inclusive.  
I.—Cases Removed to Hospital.

Number of Cases of Scarlet Fever.		Number of Persons in the same Family who escaped having Scarlet Fever.		Number of Persons in Second and Third Families in the same house who escaped having Scarlet Fever.	
Under 20.	Over 20.	Under 20.	Over 20.	Under 20.	Over 20.
832	72	1705	1676	354	774

II.—Cases Treated at Home.

132	14	131	253	22	56
-----	----	-----	-----	----	----

*Number attacked per 100 Persons not previously having had Scarlet Fever.*

I.—Cases removed to Hospital.

Attack-rate among those living in the same Family, and aged.		Attack-rate among total Persons living in the same House, and aged	
Under 20.	Over 20.	Under 20.	Over 20.
32·7	4·1	28·8	2·8
II.—Cases treated at Home.			
50·2	5·2	46·3	4·3

This table is not presented as setting forth the relative utility of home and hospital treatment. It can only shew a fragment of the truth under this head.



So far as it goes it is satisfactory. It shews that the attack-rate when the scarlatinal patients were removed to hospital was 32·7 per cent. among those in the same family under 20 years of age, and 50·2 per cent. when the patient was treated at home. But in interpreting the table the following facts must be borne in mind:—

(a) Among the hospital-treated cases, a considerable number were not removed until second or even a larger number of cases in the same house had become infected. (See tables A and B).

(b) The hospital-treated cases were as a rule much less favourably situated than the home-treated cases for the prevention of the spread of infection in the incipient stages of the disease, being generally of a lower social position. This point is necessarily implied in the fact that removal to an isolation hospital was considered requisite.

(c) As there is no local prejudice against the isolation hospital there is a process of selection in regard to home-treated cases, only those remaining at home in which the means of isolation were excellent, and in which there was no reason to suggest hospital isolation. When due weight is given to these considerations the superiority of hospital over home isolation becomes more evident.

The utility of hospital isolation is greatest in the cases in which prompt recognition of the disease and removal to hospital was secured. The following table shews respecting the first case in every house in which Scarlet Fever occurred during 1901, the day of disease on which patients were removed:—

Day of Disease on which the Patient was removed.	No. of primary cases of Scarlet Fever in each Household.	
	(a) Households in which only one case occurred.	(b) Households in which more than one case occurred.
1st	7	—
2nd	19	5
3rd	26	5
4th	20	3
5th	11	—
6th	2	—
7th	3	—
8th	2	2
9th	1	—
10th	—	—
11th	2	—
12th	1	—
14th	1	2
15th	—	1
16th	1	—
19th	1	—
25th	1	—
Doubtful Day.	—	1

*Return Cases.*—During the past year careful notes have been kept of every case in which there was the slightest reason to suspect that the discharge of a convalescent scarlatinal patient was the cause of further infection in the same or other households. The plan usually adopted respecting scarlatinal convalescents before their discharge is as follows :—(a) whenever practicable, septic cases are separated from non-septic ; (b) convalescents are separated from acute patients ; (c) patients found to be ready for discharge are kept in a separate room for three days before leaving the hospital. Before entering this room they are carefully bathed, all clothes are changed, and nostrils, &c., are irrigated with an antiseptic lotion.

Possible return cases occurred in three households during 1901.

(a) F. W., of 34 R. Road, aged 4 years, failed with Scarlet Fever on December 19th, 1900, went to the Sanatorium, and returned home February 9th. On February 14th his brother, C. W., aged  $1\frac{1}{2}$ , and on February 17th his brother, H. W., aged 8, failed with scarlet fever. On the 18th February I examined F. W., and found glands on left side of neck slightly enlarged. No discharge from nose or ears and no sore places. At No. 50 in the same street is a general shop, and on the 3rd February H. W. bought in this shop some sweets, biscuits and oranges to take to F. W., who was still in the Sanatorium. He was served by a girl named A. R., aged 13, who had failed on January 29th with an attack, which subsequently proved to be Scarlet Fever. On January 24th D. R., aged 4, and on February 4th A. R., aged 11, in the same family, failed with Scarlet Fever, and they were all removed to the Sanatorium as soon as a doctor was called in on the 6th February. The above facts appear to indicate the possibility that the two children, C. W. and H. W., acquired the infection otherwise than from the discharged patient. The point must be left open.

(b) E. W., aged 10, and H. W., aged 5, of 65 F. Road, both failed with Scarlet Fever on September 16th, they were admitted to the Sanatorium on the 17th, and returned home on October 30th. During the fortnight after leaving the Sanatorium they slept together in a separate room, but played with the following children each day :—Ethel W., aged 4, failed on the 16th, and D. W., aged 3, on the 19th November. On the 6th of November H. W. had ear ache. This was followed by discharge from the ear, which only lasted a day or two. It is probable that the occurrence of this ear inflammation indicated some recrudescence of scarlatinal infection, and was the cause of the two secondary cases.

(c) A third case is placed on record as being possibly a return case. A boy, C. W., aged 11, failed with Scarlet Fever on March 7th, was admitted to the Sanatorium March 11th, and discharged on May 8th. About the time of his discharge he had running from one ear, which lasted about a week. From the time of his discharge he slept in the same room as S. H., aged 6 years, who failed with scarlet fever on June 2nd.

Assuming all the above to be "return cases" of Scarlet Fever they represent a per centage of 3·4. The number of households thus implicated was three.

## DIPHTHERIA.

The incidence of Diphtheria in Brighton, since notification came into operation, is shewn in the following table.

	Number of infectious cases per 100,000 of population.	Number of deaths per 100,000 of population.	Case-mortality Number of deaths per 100 cases notified.
1892 ... ..	93	20	20.2
1893 ... ..	157	29	18.4
1894 ... ..	109	22	21.1
1895 ... ..	172	16	8.8
1896 ... ..	142	17	10.9
1897 ... ..	154	10	6.5
1898 ... ..	313	18	5.8
1899 ... ..	547	51	9.2
1900 ... ..	554	59	10.2
1901 ... ..	567	52	9.1

*Schools and Diphtheria.*—In my last annual report I entered in great detail into the causes and means of spread of Diphtheria and contrasted our experience with that of other towns. During 1901 we have still suffered in certain districts from an excess of Diphtheria. This having been spread largely, and I think chiefly, by the admission of unrecognised cases to school, the following table and diagram shewing, for each of the past three years, the number of cases of Diphtheria per 100 children in average attendance possesses special interest.

TABLE VI.

*Incidence of Diphtheria on each Elementary Day School in proportion to Average Attendances.*

## A.—BOARD SCHOOLS.

Name of School.	Number of cases per 100 children in average attendance in entire school.		
	1899.	1900.	1901.
Bentham Road ... ..	—	1.2	1.5
Circus Street ... ..	.8	.2	.2
Elm Grove ... ..	1.6	1.0	1.4
Fairlight Place ... ..	5.2	2.0	.5
Finsbury Road ... ..	.9	.6	1.5
Hanover Terrace ... ..	.8	.9	7.7
Middle Street ... ..	2.7	.3	.8
Pellam Street ... ..	1.7	2.0	3.5
Preston Road ... ..	1.0	11.8	6.8
Queen's Park ... ..	.4	.6	1.2
Rugby Road ... ..	1.5	4.2	2.8
Richmond Street ... ..	.4	.4	1.1
Stanford Road ... ..	2.4	1.0	3.6
York Place... ..	.8	.8	.5
All Board Schools ... ..	1.60	1.91	2.17



*Incidence of Diphtheria in Schools in different Districts of Brighton, stated in proportion to Average Attendance.*

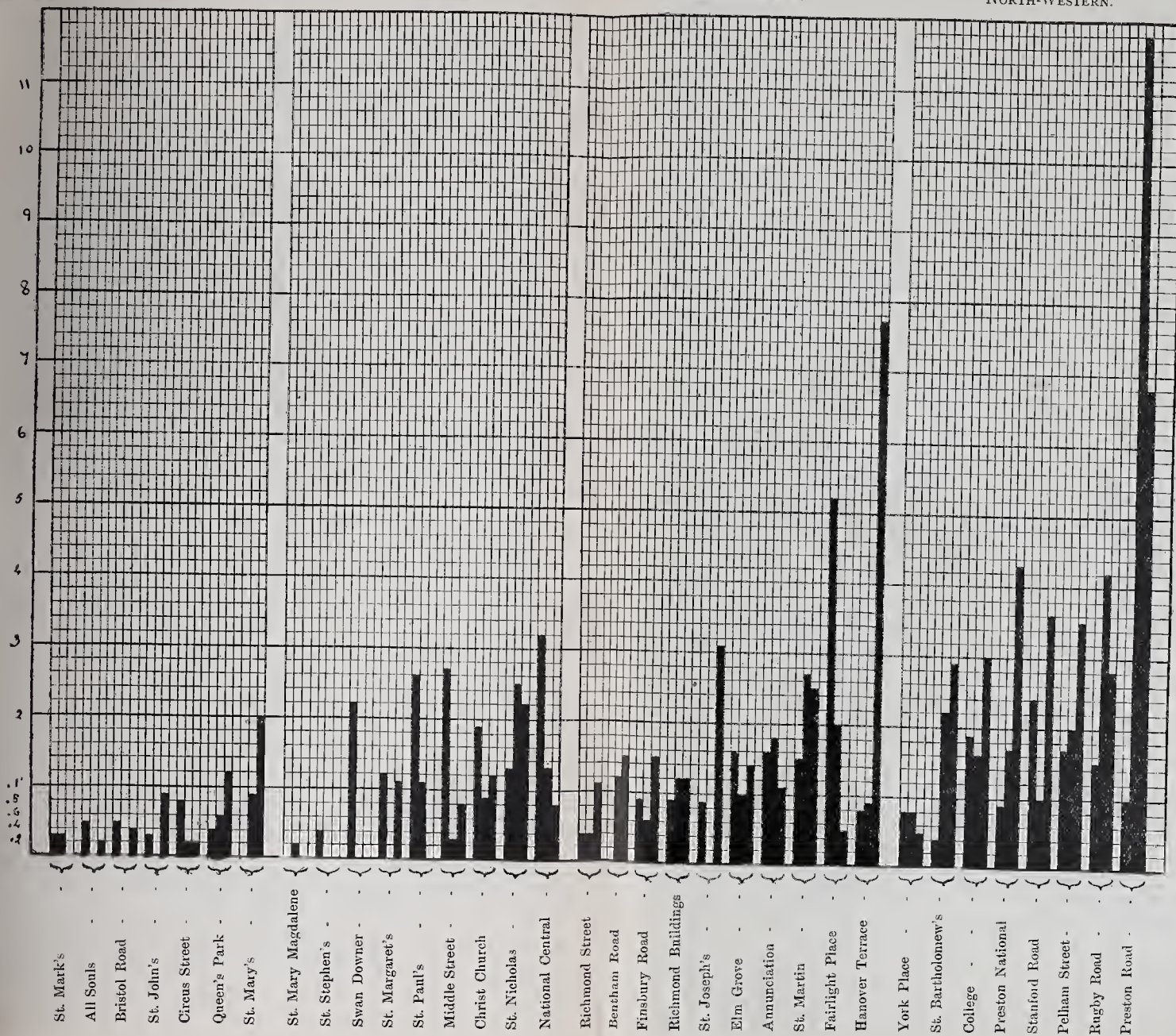
Number of Cases  
per 100 children in  
average attendance.

EASTERN.

WESTERN.

NORTH-EASTERN.

NORTH-WESTERN.







## B.—VOLUNTARY SCHOOLS.

Name of School.	Number of cases per 100 children in average attendance in entire school.		
	1899	1900	1901
All Souls' ... ..	·5	—	·2
Annunciation ... ..	1·6	1·8	1·1
Christ Church ... ..	1·9	·9	1·2
College ... ..	1·9	1·6	3·0
National, Central ... ..	3·2	1·3	·8
Preston National ... ..	·9	1·7	4·3
Richmond Buildings ... ..	·9	1·2	1·2
St. Bartholomew's... ..	·4	2·2	2·9
St. John's ... ..	·3	—	·9
St. John the Baptist (R. C.) ... ..	·5	—	·4
St. Joseph's (R. C.) ... ..	·9	—	3·1
St. Margaret's ... ..	1·2	—	1·1
St Mark's .. ...	·3	·3	—
St. Martin's ... ..	1·5	2·7	2·5
St. Mary's ... ..	—	·9	2·0
St. Mary Magdalene (R. C.) ... ..	—	·2	—
St. Nicholas ... ..	1·3	2·5	2·2
St. Paul's ... ..	2·6	1·1	—
St. Stephen's ... ..	·4	—	—
Swan Downer .. ...	2·2	—	—
All Voluntary Schools ...	1·24	1·03	1·31
Percentage excess in all Board over all Voluntary Schools }	30%	86%	67%

This table does not include the cases secondarily infected in these houses by the school children.

The relative experience of all Board and all Voluntary Schools is summarised at the foot of Table VI.

The same preponderance of Diphtheria in Board over Voluntary Schools is seen in 1901 as in previous years; and it appears to me that the accident of geographical position of Board Schools in districts specially affected by Diphtheria, does not afford a sufficient explanation of this anomaly. Detailed examination of the table and diagram shows that some other reason than this must be adduced to explain the discrepancy. It cannot be caused by structural defects, as the balance to the good in this respect is on the side of Board Schools. In my opinion there must be differences of administration in the two sets of schools, which are comparatively unfavourable to the health interests of Board School children, so far as the spread of infection is concerned. Of these the more strenuous efforts made to secure the attendance of absentees from Board Schools are, I believe, the most potent for evil when Diphtheria is prevalent. In saying this, I recognize the fact that in a few Voluntary Schools, efforts are made equal to those made to secure the attendance of absentees from Board Schools; and that the stress to secure a high attendance is much less in some

Board Schools than in others. Nevertheless, it is clear to my mind that, speaking generally, greater pressure is brought to bear on parents to secure attendance at Board than at Voluntary Schools. Many cases of this disease are unrecognised. The symptoms are so slight as to cause but little inconvenience, and such children form a common source of infection. Numerous such cases have been found in Board Schools during the past year.

Whenever an outbreak of Diphtheria has occurred at any Board School during 1901, the School Board have at my request co-operated most efficiently, by employing the Medical Officer to the School Board to take "swabs" from the throats or noses of children who were suspected, either (a) because they presented suspicious symptoms, or (b) because they had been absent from School for a few days, or (c) had been in contact with cases of Diphtheria.

The following is a statement of the number of swabs sent by Dr. Eves for examination in the Municipal laboratory :—

Name of School.	No. of Swabs sent.	Name of School.	No. of Swabs sent.
Queen's Park ... ..	7	Elm Grove ... ..	8
Pelliam Street ... ..	8	Preston Road ... ..	13
Stanford Road ... ..	42	Hanover Terrace ... ..	10
Richmond Street ... ..	9	Ditchling Road ... ..	10
		Total ... ..	127

Of these swabs, 10 shewed the presence of Diphtheria in an unrecognised form in children attending school, 84 gave a negative, 19 a doubtful result, and in 14 swabs no growth occurred on culture.

Of the School outbreaks of Diphtheria, Preston Road and Hanover Terrace suffered most, the former to a declining extent as compared with the preceding year.

Hanover Terrace Girls' School suffered from an outbreak including 19 primary and 6 secondary cases between the 11th June and the date of school closure July 17th.

At Stanford Road Boys' School the 1st case began September 8th, and between that time and the closure of the department on November 1st, 23 primary and 5 secondary cases occurred. During a considerable portion of this time Dr. Eves attended daily and took "swabs" from suspected children. Several children were excluded on the strength of these swabs. The attacks continuing to occur notwithstanding "swabbing" of all children who were under suspicion, the school was closed on my recommendation from November 1st, to December 2nd. One partial cause of the failure of the steps already taken was discovered on November 13th, when W. K., of 89 — Road, was notified to be suffering from Diphtheria, which began on November 12th. On visiting his

house his cousin, W. H., aged 13, was found to have had "Mumps" which began about October 26th; this boy continued to attend school until it was closed. On examination he was found to be still infectious, the attack having been really Diphtheria.

Another case of the same kind was as follows:—F. M., aged 13, began with sore throat on September 23rd. He resumed school attendance at the end of a week, and was in the same class as five children who subsequently failed with Diphtheria. On November 12th his brother and a neighbour's child, aged 9, both failed with Diphtheria: and this led to the discovery that F. M. had almost certainly had an unrecognised attack of Diphtheria.

The above two cases indicate that "swabbing" of school children if confined only to those suspected under the headings (a) (b) and (c) on page 28 may occasionally fail, and that short of school closure the only effective measure may be "swabbing" of all the children in the infected class, possibly more than once. In the above instance after the school re-opened, there was no recrudescence of the disease.

The distribution of the cases in *households* was as follows:—

Total Cases Notified during 1901 ... 702.						
Of these there were in 474 houses	1 case each	...	...	...	...	474
66 "	2 cases "	...	...	...	...	132
18 "	3 " "	...	...	...	...	54
8 "	4 " "	...	...	...	...	32
2 "	5 " "	...	...	...	...	10

*Removal to Hospital in Diphtheria.*—Similar statistics as to attack-rate of Diphtheria among exposed persons to those given on page 22 for Scarlet Fever have been compiled: these shew that when only single cases occurred in each house the attack-rate was 26·8 per cent. among exposed persons under 20 in hospital-treated, as compared with 34·9 per cent. in home-treated cases, and that when multiple cases occurred the proportionate percentage was as shewn in the following table:—

*Attack-rate among persons under 20 years of Age in Infected Houses.*

	Home-Treated Cases.	Hospital-Treated Cases.		
A. Only one case in the house	34·9	26·8		
		(1) 1st case removed before onset of 2nd.	(2) 1st case not removed before onset of 2nd.	(3) Two cases simultaneous onset.*
B. More than one case in the house ... ..	72·7	49·4	59·4	37·0

\* Only 27 in this group.



The information contained in this table is necessarily subject to certain limitations. To express the full utility of hospital isolation, it would be necessary to transfer to the side of home-treated cases all those secondary cases occurring within an interval not longer than the period of incubation of Diphtheria after the removal to hospital of the first patient.

*Prophylactic Administration of Antitoxin.*—One of the preventive measures carried out since August last has been the administration of antitoxin to children who have been exposed to the infection of Diphtheria so as to produce temporary immunity against the disease. The following letter embodying this and other recommendations was sent to each doctor in Brighton in August last :—

August 20th, 1901.

*Administration of Diphtheria Antitoxin.*

DEAR SIR,—I beg to draw your attention to the facilities provided for the supply of Diphtheria Antitoxin. It can be obtained during office hours from the Public Health Offices, Town Hall, and after these hours at any time, day or night, at the Police Office, Town Hall.

*As to Early Administration of Antitoxin.*—In a small number of cases the administration of Antitoxin has been delayed pending receipt of the certificate giving the result of the examination of a swab from the patient's throat. May I point out that the administration of at least a small dose of Antitoxin is desirable as soon as the existence of Diphtheria is suspected. Doses of 500 units, suitable for such cases, can be obtained at the Town Hall. By following this course life may not infrequently be saved. The rule now regarded as best is that in all sore throats in which any exudate is visible, even though the suspicion of Diphtheria is but slight, a dose of Antitoxin should be administered. During a large personal experience of the administration of Antitoxin for prophylactic and curative purposes, I have never seen any injurious effect from it. On the contrary, *a large saving of life can be effected by treating every case of Diphtheria with this remedy immediately it comes under the doctor's care.* Every hour is of vast importance ; not only in the direction of diminishing the amount of Antitoxin required, but also in securing its full value as a life-saving remedy.

*As to Gratuitous Supply of Antitoxin.*—A free supply can be obtained at any hour for patients whose circumstances do not permit of their paying for it.

*As to the Administration of Antitoxin as a Prophylactic.*—The Town Council have authorised me to state that a fee of 2/6 will be paid for every prophylactic dose of antitoxin which is certified to have been given at my request to children living in the same house as the patient, when the circumstances of the parent or parents do not permit of their paying the practitioner. The value of this measure for preventing secondary cases in a house has been clearly proved, and it is felt that the family doctor is the proper person to give this remedy.



*Supply of Swab Outfits.*—The chief utility of these is for slight cases difficult of recognition. Swab outfits will be sent to the doctor's address on receipt of a telephonic or other message. Sufficient stress has been laid above on the fact that the use of them may, if Antitoxin be not administered pending the examination, cause loss of life.

Believe me,  
Yours faithfully,

Medical Officer of Health.

Since that date prophylactic (*i.e.*, preventive) doses of antitoxin have been given to 153 persons in 64 households in which cases of Diphtheria had occurred. The antitoxin was not given indiscriminately, but only in households in which there was grave reason for expecting that other cases of Diphtheria would occur, owing to the lack of early recognition and removal of the first patient, or owing to overcrowding, &c. Of the children receiving prophylactic doses, the number belonging to each year of life from birth onwards was 15, 7, 12, 18, 13, 13, 23, 10, 11 and 7, up to the age of 10 years. To children aged 10-15, 20 doses were given, and 4 to persons over 15. Among the patients to whom these doses were given, only four cases of Diphtheria occurred, *viz.*, in two patients, aged 8 and 35 respectively, who it was subsequently found were already suffering from Diphtheria, and in two, aged 6 and 34, who failed with Diphtheria on the same day.

*Return Cases.*—17 C. Street, C. B., aged 9, discharged 14th October (admitted 17th September), a sister failed with Diphtheria October 29th, a child at No. 13 on October 24th, and two children at No. 15 on November 4th and 5th. The 1st patient a week after leaving the Sanatorium is stated to have had "nasal voice" but a swab taken on October 29th was negative. No other cases had been notified in this street while C. B. was in Sanatorium.

E. E., aged 4, of 19 S. Street, admitted Sanatorium April 29th, no clinical Diphtheria on admission, but diphtheria bacilli found. On 21st May "cocci and a few Hoffman bacilli" in nasal secretion. Patient was then transferred to an isolation ward with a view to being discharged. A few days later nasal secretion increased, and swab on 26th shewed diphtheria bacilli. Then sent back to convalescent infectious ward for a week. On 3rd June "cocci and a few Hoffman" found. Again isolated for 4 days and sent home on 7th June. Sister M. E., aged 6, failed on 15th June, was admitted on 19th. On admission no clinical evidence of Diphtheria, but diphtheria bacilli found. Four other children and four adults in this house remained well.

K. E., aged 4, of 71 S. Street, admitted Sanatorium November 22nd (failed November 9th), discharged December 20th. L. E., aged 9, failed December

30th. She had been in free contact with K. E. since his arrival home. The latter had complained during this time of "tightness" in nose but no running from it. No other children in the house.

E. H., aged 6, of 19 K. Street, failed October 10th, Sanatorium October 11th, discharged November 4th. Then slept in a separate bed until 14th November, when he began to sleep with J. H., aged  $3\frac{1}{2}$ . The latter failed with Diphtheria on November 18th. Two other children in the house remained well. E. H. after returning home had no nasal voice, nasal discharge or other symptoms.

*Cases Simulating Return Cases.*—K. C., aged 2, of No. 60 C. Street, failed with Diphtheria on April 8th, Sanatorium April 11th, discharged May 9th. On May 13th C. C., aged 8, began with sore throat. Notified as Diphtheria and removed to the Sanatorium on May 14th. Discharged May 28th, no evidence of Diphtheria being found by repeated bacteriological examinations. During K. C.'s absence in the Sanatorium, the mother had a sore throat "all the time." The father failed with sore throat May 13th. Swabs from both these patients failed to reveal the presence of Diphtheria.

C. C. aged 3, of 12 L. Road, failed with Diphtheria December 24th, notified 28th, nursed at home. J. C. aged 24, failed with Diphtheria January 15th, nursed at home. On January 15th C. C.'s sick room was disinfected at practitioner's request, but the sister of J. C. failing with Diphtheria on the same day; both patients were then placed in one room. A week later, contrary to my advice, C. C. was allowed about the house, and on February 1st she went to a sweet-stuff shop kept by the father of C. P., aged  $2\frac{1}{2}$ , who failed with Diphtheria next day. The two children came into contact with each other in the shop. At this shop there had been four previous cases of diphtheria, who were all removed to the Sanatorium December 27th, having failed between the 22nd and 25th. One of these died at the Sanatorium, one on February 1st was not discharged, two aged 8 and 12 respectively had been discharged on January 26th, on the strength of negative swabs. The sister aged  $2\frac{1}{2}$  years failed, as already stated, on February 2nd.

## MEASLES AND WHOOPING COUGH.

During 1901, teachers have continued to supply me with lists of cases of non-notifiable infectious diseases occurring in their schools, the attendance for absences from these families being allowed for by the Government on my certificate. This has enabled us to exercise some measure of control over the home-isolation of the patients. The degree of control in Whooping Cough is still very slight.

*Ages of School-Notified Cases.*

Aged.	Whooping Cough.		Measles.			
	1900	1901	1900.		1901.	
			(a)	(b)	(a)	(b)
0-1 ... ..	9	16	—	25	—	7
1-2 ... ..	9	15	23	48	3	4
2-3 ... ..	17	12	39	5	7	4
3-4 ... ..	31	46	133	2	44	—
4-5 ... ..	50	43	203	—	74	—
5-6 ... ..	53	62	272	—	75	1
6-7 ... ..	40	36	145	—	65	—
7-8 ... ..	11	12	65	—	32	—
8-9 ... ..	5	7	25	—	11	—
9-10 ... ..	2	2	5	—	3	—
10-15 ... ..	3	2	17	—	15	—
Over 15 ... ..	—	—	1	1	1	3

(a) First case notified attended School.

(b) Members of family attended School, but not the First Patient.

Of 400 houses in which cases of Measles were notified in 1901, there was 1 case in 276 houses, 2 cases in 39 houses, 3 cases in 10 houses, and 4 cases in 4 houses. An unknown proportion of the Measles cases were cases of Rôtheln (German Measles).

## ENTERIC OR TYPHOID FEVER.

The incidence of Enteric Fever, since notification came into operation, is shewn in the following table :—

					Number of cases per 100,000 of population.	Number of deaths per 100,000 of population.	Case-mortality Number of deaths per 100 cases notified.
1892	...	...	...	...	54	7	12·7
1893	...	...	...	...	65	13	19·5
1894	...	...	...	...	69	9	13·0
1895	...	...	...	...	72	12	16·6
1896	...	...	...	...	101	11	11·2
1897	...	...	...	...	94	17	18·1
1898	...	...	...	...	105	15	14·3
1899	..	..	...	...	148	20	13·7
1900	...	...	...	...	67	9	14·4
1901	...	...	...	...	37	5	13·0

It will be seen that there was less Enteric Fever in Brighton than in any previous year on record, the nearest approach being 1892.

Of the total 46 cases notified, six were subsequently found not to be Enteric Fever, and in one instance the diagnosis was very doubtful. Seven cases received their infection outside Brighton. In five personal contact with other cases appeared to have caused the attacks; in five infected milk was probably the



cause ; in nine cases no history could be obtained ; one was possibly infected in laundry work ; in two cases there was a history of frequently eating celery. Although the evidence was inconclusive, it seemed possible that deficient cleansing of celery, which had previously been manured with night soil, might have been the cause of these attacks. In three instances there was a history of eating mussels, and in six of eating oysters derived from a sewage polluted estuary, within a period corresponding with the incubation of the disease.

### DIARRHŒA.

The death-rate from Diarrhœa is somewhat affected by the changes of nomenclature introduced by the Register-General last year, the use of the word "epidemic" or "zymotic" as a prefix to enteritis having been recommended.

During last year 21 deaths from epidemic or zymotic enteritis were returned. Many of these deaths would formerly have been entered as enteritis without any prefix, and would not then have come in the diarrhœal returns.

The death-rate from the two together was 89 per 100,000, as compared with 77 in 1900, and 157 in 1899. The association between diarrhœa and the rainfall for the third quarter is so close that Table VII., giving the rainfall for each week in the year, should be consulted.

The following table shews to what extent the annual rainfall deviated from that of the average for the 25 years for which observations have been taken at the Brighton Meteorological Station, and brings out the fact that with three exceptions there has been a continued deficiency of rain from 1887 onwards :—

*Deviation from Average Rainfall (28·87 in.) of 25 years, 1877-1901.*

Year.	Deficiency.	Excess.	Accumulated Deficiency.
1887	6·77	—	6·77
1888	·71	—	7·48
1889	1·42	—	8·90
1890	5·26	—	14·16
1891	—	5·51	8·65
1892	2·40	—	11·05
1893	4·74	—	15·79
1894	—	3·08	12·71
1895	3·68	—	16·39
1896	1·03	—	17·42
1897	—	0·25	17·17
1898	8·46	—	25·63
1899	5·40	—	31·03
1900	1·04	—	32·07
1901	6·26	—	38·33



## TUBERCULAR DISEASES.

*Mean Annual Death-Rate in Brighton from Phthisis (Consumption) and other Tubercular Diseases per 100,000 Persons in Groups of Years.*

	Phthisis.	Other Tubercular Diseases.
Ten years, 1861-70 ... ..	295	98
Ten years, 1871-80 ... ..	247	78
Three years, 1881-83 ... ..	193	?
Three years, 1884-86 ... ..	169	?
Four years, 1887-90 ... ..	169	?
Four years, 1891-94 ... ..	150	82
Four years, 1895-98 ... ..	149	63
1899 ... ..	146	28
1900 ... ..	139	47
1901 .. ...	134	59

The decline in the death-rate from Phthisis has continued, while the death-rate from other tubercular diseases has increased. This is almost certainly only apparent. The "other tubercular diseases" include a number of which, the diagnosis being difficult, there has been incomplete certification in the past. On the contrary, in one respect, certification has occasionally been less complete than in the past, many death certificates now certifying "tuberculosis" as a cause of death, without defining the chief part of the body implicated. Many deaths are returned as "tabes mesenterica," in which there is no certain evidence of tubercular disease.

## NOTIFICATION OF PHTHISIS.

Voluntary notification of Phthisis by medical practitioners was begun in January, 1899, no payment being then made for such notifications. Between that date and September 11th, when the new arrangement to pay for each case of Phthisis notified in private practice, 2s. 6d., and in public practice, 1s., came into operation, 70 cases were notified. From September 11th to December 31st, 1899, 43 cases were notified. During 1900, 105 cases were notified, including 5 notified by myself.

During 1901, 162 cases were notified, viz., 51 cases in private practice (fee 2s. 6d. a case), 80 cases in public practice (fee 1s. a case), 29 cases reported by relieving officers (fee 6d. a case), and 2 cases notified by friends. Of the above cases 14 were notified twice, 2 three times. The fees paid for notification were £11 2s.

Of the notified cases 45 have died between the date of notification and March 13th, 1902. These fatal cases were notified at the following intervals before death:—same day, 2 cases; less than 1 week before death, 4; 1-2 weeks, 8; 2-4 weeks 1; 1-2 months, 10; 2-3 months, 6; 3-4 months, 2; 4-6 months, 5; 6-12 months, 9. The Sanitary Committee have not undertaken to pay for

TABLE VII.

[illegible]

1901. Week ending	Number of Deaths during week from										Temperature of air during week.			Temperature of soil during week at a depth of four feet.		Wind.								Rainfall.		No. of hours of bright sunshine.	
	Measles.	Scarlet Fever	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Influenza.	Bronchitis.	Pneumonia, including Broncho-Pneumonia.	Phthisis.	Highest.	Lowest.	Mean.	Highest.	Lowest.	No. of days of								No. of days on which rain fell.	Amount collected in inches.		
																N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.				Calm.
Death-rate per 1,000 per annum.																											
July 6...	16.4	—	—	—	—	1	1	4	1	3	76.4	54.6	63.1	60.0	59.4	—	1	1	1	—	3	—	—	1	0.66	45.25	
" 13..	13.9	—	—	—	—	—	1	—	—	1	78.6	51.4	62.5	61.4	60.4	1	4	—	—	—	—	—	—	—	—	69.50	
" 20...	8.4	—	—	—	—	—	—	—	—	—	79.6	50.2	64.3	62.8	61.6	—	1	—	2	1	—	—	—	—	—	79.75	
" 27...	19.8	—	—	3	—	2	—	2	1	1	75.0	56.0	62.0	63.8	63.0	—	—	—	2	2	—	—	3	2.83	28.25		
Aug. 3...	17.3	—	—	1	—	9	1	4	1	9	81.8	54.4	64.4	63.2	62.8	—	1	—	3	1	—	—	—	—	—	71.16	
" 10...	18.6	—	—	—	—	13	—	2	2	3	74.8	52.4	61.5	63.6	63.2	—	—	—	1	5	1	—	—	—	0.14	51.01	
" 17...	20.7	—	—	2	—	5	—	2	2	—	72.0	50.2	60.9	63.8	63.2	—	—	—	3	3	—	—	4	0.57	48.66		
" 24...	19.0	—	—	—	—	12	—	—	3	3	84.0	54.0	65.4	63.8	63.0	1	3	3	—	—	—	—	—	—	—	85.66	
" 31...	24.5	—	—	1	—	22	—	—	3	6	72.4	46.8	58.6	63.8	62.8	—	—	1	—	2	3	—	—	—	1.03	46.50	
Sept. 7...	21.5	—	—	—	—	11	1	2	1	3	68.8	49.6	58.1	62.4	61.8	—	—	6	—	—	—	—	—	—	—	55.58	
" 14...	16.9	—	—	—	—	5	—	1	—	5	69.2	55.8	60.2	61.8	61.6	—	2	—	1	2	—	—	—	—	0.26	24.40	
" 21...	14.8	—	—	—	—	9	1	2	1	1	67.4	45.0	57.9	61.4	60.6	1	—	—	1	—	—	—	—	—	0.72	18.01	
" 28...	16.0	—	—	1	—	3	—	—	—	4	68.8	44.6	57.6	60.4	60.2	—	—	1	1	2	1	—	—	—	—	22.41	
Oct. 5...	13.9	—	—	—	—	5	—	2	2	1	62.4	40.0	53.4	60.2	58.0	—	—	2	1	2	—	—	—	—	1.12	26.58	
" 12...	16.9	—	—	—	—	3	—	—	—	1	60.6	41.4	53.7	58.0	57.0	—	—	2	1	2	—	—	—	—	0.15	25.09	
" 19...	14.3	—	—	—	—	1	1	2	1	3	60.4	36.6	47.8	57.0	54.8	1	2	2	—	—	—	—	—	—	1.35	17.99	
" 26...	11.4	—	—	1	—	1	1	2	1	4	57.8	34.0	50.5	54.2	53.2	—	2	—	—	2	—	—	—	—	1.83	29.42	
" Nov. 2...	13.1	—	—	—	—	—	1	1	2	5	56.2	31.0	42.7	53.0	50.2	—	3	1	—	—	—	—	—	—	0.01	34.50	
" 9...	18.6	—	—	—	—	2	1	3	2	1	56.4	29.4	45.2	50.0	49.8	2	2	—	—	2	—	—	—	—	—	28.00	
" 16...	17.3	—	—	—	—	1	1	—	1	1	55.2	26.4	44.8	48.8	47.6	—	1	—	—	2	1	—	—	—	0.17	19.92	
" 23...	22.3	—	—	—	—	1	1	5	2	3	48.4	31.2	40.9	47.8	46.2	4	1	—	—	—	—	—	—	—	0.18	14.00	
" 30...	18.1	—	—	—	—	—	1	4	3	4	54.0	34.0	45.0	46.2	46.0	—	1	—	—	—	—	—	—	—	—	18.83	
Dec. 7...	19.4	3	—	1	—	—	—	7	4	2	53.0	32.8	43.6	48.0	45.6	1	1	—	—	3	—	—	—	—	0.18	8.08	
" 14...	17.7	—	—	—	—	1	—	6	7	3	46.4	28.4	35.8	46.0	45.6	1	2	—	—	2	—	—	—	—	1.71	11.25	
" 21...	19.0	—	—	1	—	—	—	3	12	3	46.4	28.4	35.8	45.6	44.0	—	1	—	—	1	—	—	—	—	0.06	26.00	
" 28...	18.6	—	—	—	—	—	—	7	—	3	50.2	23.6	37.0	43.4	41.8	—	1	—	2	1	—	—	—	—	1.64	11.33	
Entire year ...	16.4	1	64	26	6	110	22	171	110	164	84.0	23.0	50.9	63.8	38.0	44	70	26	16	32	67	28	35	46	22.58	1896.53	



the notification of moribund cases, as these are heard of through the death returns, and information to this effect has, when necessary, been sent to the certifying practitioner, with an explanation of the reason for the exclusion.

Of the cases notified 27 were removed to the Workhouse ; and by means of an excellent working arrangement with the relieving officers immediate information as to these cases was obtained, and the cleansing and disinfection of the vacated rooms secured before their occupation by a new tenant. Of the 27, two subsequently returned home.

Four other cases went to Sanatoria for Consumption ; 10 removed to other houses ; 12 left Brighton, and 6 removed to unknown addresses.

*Notification of change of Address.*—Generally notified cases are visited every second or third month. This interval unfortunately allows of the removal to other houses of notified cases, and the occupation without disinfection of the vacated rooms by new families for a considerable period before the next visit is made. This is the most serious defect in our present arrangements in regard to notified cases, although the conditions as regards these cases are better than for the still larger number of cases at present unnotified. Some patients are entirely lost sight of owing to removals. The only effective remedy for this evil is the compulsory notification by consumptive patients or their guardians of changes of address ; and, in my opinion, the time is almost ripe for compulsory notification to this extent. Such notification would not involve any serious discomfort to patients, as the disinfection and cleansing would be carried out after their removal. It would, however, furnish a great safeguard to incoming tenants, who, under present circumstances, are at the mercy of chance, as to whether they occupy a house or lodgings recently vacated by a consumptive patient or not. In a health resort of the importance of Brighton, the enforcement of this modified compulsion would give great confidence to the public.

*Disinfection.*—In 40 cases houses were disinfected after removal of patients. Of these, in 18 cases rooms were sprayed ; in 21 cases walls were stripped, cleansed and whitewashed ; in 7 cases rooms were cleansed and bedding washed by tenant ; in one case bedding was burnt ; and in 13 bedding was removed for disinfection by steam.

The following action was taken *after deaths from Phthisis*.—In 54 cases rooms were sprayed ; in 83, stripped, cleansed and whitewashed ; in 2, fumigated with sulphur by the tenant ; in 37 cases rooms were cleansed and bedding washed by the tenant ; in 11, bedding was burnt, and in 54 removed for disinfection by steam.



The following *defects*, in addition to the above, were found and remedied in connection with visits to cases of and deaths from Phthisis :—

Defective scullery sink	...	...	...	...	...	...	1
Untrapped drain	...	...	...	...	...	...	1
Leaky roofs...	...	...	...	...	...	...	5
Defective paving	...	...	...	...	...	...	12
Foul ashpits	...	...	...	...	...	...	4
Dust bins required...	...	...	...	...	...	...	7
Premises requiring cleansing	...	...	...	...	...	...	8
Foul or defective closet apparatus	...	...	...	...	...	...	8
Defective or no rain water guttering	...	...	...	...	...	...	5
Soil pipe defective	...	...	...	...	...	...	1
Animals kept	...	...	...	...	...	...	6
Brick floor of room damp	...	...	...	...	...	...	1
Houses requiring cleansing and whitewashing	...	...	...	...	...	...	24
Windows not opening properly	...	...	...	...	...	...	5
Window required on staircase	...	...	...	...	...	...	1
Defective plastering on outer walls	...	...	...	...	...	...	2
Choked drain	...	...	...	...	...	...	1
Choked closet	...	...	...	...	...	...	1
Over-crowded rooms	...	...	...	...	...	...	4

*Evidence of Infection.*—The details given in inspection cards relating to cases of Consumption shews the magnitude of the evil with which we are attempting to cope. It is both insidious and protracted, and it will be many years before the fruit of present work can be reaped in prevention of a large number of cases. The following cases illustrate the infectious character and the protracted duration of the infection of Phthisis :—

Man, aged 19 years, living at 1 P. Street. His father died of Consumption at — Spa Street 18 months ago. He was then living with his father, and began to be ill at the time of his father's death. This is a common story—protracted exposure to infection, this taking root only after a long time.

Girl, aged 12 years, living at 27 G. Street. Has been ill 4 months. Her mother died of Consumption, January, 1901. This girl attended her in her illness. After her mother's death she went to wait daily on her aunt at 33 B. Terrace, the aunt dying of Consumption in February, 1902, after 5 years' illness.

Female, aged 18 years, 2 N. Street. Has been ill for 4 years, her father dying of the same disease in this house 4 years ago.

Female, aged 30 years, 10 L. Street. Began to be ill shortly after her husband died of Consumption 2 years ago.

Female, aged 40 years, 16 L. Street. Had been ill since Christmas, 1900, and died in May, 1901. Her husband died from Consumption in the same house in May, 1900.

Man, aged 43 years, 44 W. Street. Was notified in December, 1900, to be suffering from Consumption, and is still alive. In December, 1901, his child, aged 6 months, died after a few days' illness of tubercular meningitis.

Female, aged 30, living at 50 G. Street, has suffered from Consumption for three years. Her daughter, aged 10, is also consumptive. The father of the latter died in the Workhouse Infirmary in May, 1899, from Consumption, and a sister in Chichester Hospital after an accident, Consumption being found *post mortem*.

Female, aged 36 years, 35 S. Street, had pleurisy three years ago, and is now suffering from Consumption. Her husband had Consumption in 1897, and has recovered.

*Cases Illustrating Importance of Earlier Notification and Visits.*

Man, aged 46, at 21 M. Street, was found sleeping in the same bed with his wife and two girls, aged 10½ and 9 years, in a very small room, and expectorating without suitable arrangements. He died a few days later.

27 G. Street, a girl, aged 12, with Consumption, was sleeping in the same bed as her sister, aged 11, and father.

1 P. Street, a young man, with Consumption, was sleeping in a very small room with brothers aged 15 and 10.

*Further Action on the Prevention of Tuberculosis.*—Members of the Sanitary Committee attended the British Congress on Tuberculosis in July.

A special report was presented, of which a copy has been sent to each member of the Council. This dealt in detail with a number of preventive measures, which had been and were about to be taken. Some copies of this report are still in print, and can be had by those interested in the subject. It is not therefore necessary to reprint this matter here.

At the end of the year 1901, the Consumption Sanatorium Sub-Committee presented the following report :—

Public Health Department,

Town Hall, Brighton,

January, 1st, 1902.

To the Sanitary Committee.

GENTLEMEN,—The Report of the Deputation from the Brighton Town Council to the British Congress on Tuberculosis embodied a recommendation, which was accepted by the Town Council, that the Sub-Committee on Sanatoria should be re-appointed, and that they should prepare a report on sanatoria for

consumption with special reference to whether a local sanatorium should be established, or whether this could be effected (*b*) by combination with other Public Bodies and with Friendly Societies and others, or (*c*) by paying for a certain number of beds in connection with some sanatorium already established.

In following out this recommendation, I have been collecting information on the subject which I now beg to present to you.

### *As to the Objects of Sanatoria for Consumption.*

From the standpoint of the general public, the objects gained are the *temporary removal* of the phthisical patient from houses in which he cannot be properly treated or prevented from becoming a means of danger to other occupants of the house, and the *training* which the patient receives in the means of preventing the spread of consumption and in the value of open-air treatment. This training will thus become widely disseminated among the public, and help to produce a general raising of the standard of the public health. From the patient's own standpoint there is a still greater advantage, that in a very considerable proportion of cases *cure* is secured by treatment in a well-organised sanatorium which cannot be secured under the home conditions of life. Each of these three objects requires consideration in further detail.

### *Isolation.*

It must not be understood that strict isolation is required in the same sense as for scarlet fever or diphtheria. There is no necessary spread of infection from a consumptive patient if precautions of a simple character are taken. The taking of these precautions, however, involves a certain amount of skill as well as conscientious perseverance, and in practice it has been found that it is very difficult to induce patients at home to carry out all the necessary measures. When they have been in a sanatorium, and have proved the benefit which they personally receive by adhering to a certain régime there is every likelihood of their continuing this after their return home. I have repeatedly found in visiting patients, who have formerly been occupants of a consumptive hospital, that the simple precautions necessary are continuing to be taken after the patient's return home. The patient himself has the strongest incentive for doing this, as he has learned while in the hospital that his prospect of recovery depends largely upon it. Clearly, however, it is not correct to speak of a sanatorium for consumption as an isolation hospital, inasmuch as relatives may visit patients there with perfect safety.

### *Education.*

Although the provision of sanatorium accommodation, on any scale which is likely to be carried out in Brighton, will only affect a small proportion of the total cases of consumption in the town, it will affect particularly the cases



which need such education. For well-to-do people there is already sufficient provision in this direction. For small shop keepers, shop assistants and clerks, for artisans and labourers, and particularly for those who are just above the pauper class, there is great need for aid in the cure of consumption, and it is such persons who profit most by staying in a sanatorium. During their absence the home can be thoroughly purified, the relatives can be instructed as to the importance of living under favourable conditions, and the patient when he returns home cured, or greatly improved in condition, is anxious to continue the same lines of treatment as those which have already benefited him.

### *Treatment.*

The results of treatment in a sanatorium will depend upon the stage at which the patient is admitted. Hospitals for consumption in fact may be divided into two classes, (1) those for patients in the first stage of consumption, and (2) those for patients in the advanced stages of the disease. A large proportion of the latter now drift into the Workhouse Infirmary. They are seldom admitted into general hospitals, which would have a very large proportion of their beds occupied by such patients were it permitted. The result is that a large number of such patients remain at home during the last six months of their lives, when the amount of expectoration is usually great, and infection is also very great. This is a constantly operating means for the spread of consumption, and what is commonly described as a family history of consumption, usually means simply that one member of the family after another has fallen a victim to the protracted infection thus disseminated.

The form of sanatorium, however, which is most likely to have far reaching utility, is that for early cases. The statistics available shew that of such cases, roughly speaking, one-third are cured and one-third are greatly improved. Probably better results than these could be secured were the treatment confined to those early cases, and more advanced cases relegated to a separate hospital.

### *Principles of Open-Air Treatment.*

The form of treatment which has been found most successful in these sanatoria is subjecting the patients under careful conditions to a life which gradually approaches more and more closely to living out of doors; windows and doors being kept open with screens to prevent draught, and abundant clothing provided to prevent chill. It is found under these conditions that the patient is able to eat large quantities of food and to assimilate it, and that he rapidly gains in weight, and fever and cough disappear. The treatment can be best carried out away from a dusty town, in a sanatorium containing large grounds well sheltered by trees from the north and east, and if possible on a site sloping towards the south. Successful results have, however, been obtained by applying the method in general hospitals in towns, as in Sheffield, and the



treatment may also be carried out in private houses with a fair amount of success.

It may be asked whether the cures which have been effected in such sanatoria are permanent. This depends upon the conditions to which the patient is exposed after leaving the sanatorium. Strictly speaking, there is no such thing as cure in consumption. The best that can be hoped for is that the injured tissues will heal up, only a scar being left. A large proportion of the population of England and Wales are in this condition, and they are able to do satisfactory work for the rest of their lives. Under the influence of debilitating circumstances; *e.g.*, an attack of influenza, or an indoor occupation of a dusty character, consumption may again light up or be acquired in such "cured" cases. Hence the importance of securing for patients discharged from a sanatorium for consumption the best conditions of life; and in connection with any scheme which the Town Council may adopt for the provision of sanatorium accommodation for consumptives, there will be ample scope for private philanthropy in securing favourable conditions of life for persons who have undergone the cure, more particularly the transfer of the patient from an indoor to an outdoor life. In a very large proportion of cases the "cure" is permanent. Even in the cases referred to above in which relapses occur, additional years of working power have been secured, recourse to Poor Law or to other aid has been postponed, and the community has been undoubtedly benefited to a much greater extent than is represented by the cost of maintenance of the patient in the Sanatorium.

It may be objected that the money proposed to be devoted to sanatoria for consumptives would be better spent on sanitary improvement. Already, if the official records of this country are to be trusted, consumption has declined to the extent of about 50 per cent. during the last fifty years, and it has been urged that improved conditions of housing, diminution of alcoholism, &c., would obviate the necessity for more direct methods against the spread of consumption. This is almost certainly an incorrect view. Sanitary improvement and improved treatment of patients should go hand in hand. Probably the diminution of consumption is overstated in the official figures. Even if it be regarded as correct, the number of deaths still caused by this disease is so great as to call for more energetic action.

During the year 1900 measles caused in Brighton 53 deaths, whooping cough 35, enteric fever 12, diphtheria 72, scarlet fever 12, while consumption caused 173 deaths—nearly as many as all the above diseases put together; with this important difference, that, excepting enteric fever, the deaths from acute infectious diseases are nearly all during school life, while the deaths from consumption occur in a very much higher proportion in the working period of life. From the point of view of loss to the community, consumption is a much more important disease than all the acute infectious diseases put together. On an

average, fatal cases of consumption probably last from three to four years before their termination. Making allowance for the fact that a large number of consumptive patients come to Brighton within a few months of their death, probably there are over 500 patients with consumption constantly ill in Brighton. These patients represent a great monetary loss to the community. Some conception of this monetary loss may be obtained from the following figures relating to patients treated in the Workhouse Infirmary. These patients come from the Parish of Brighton only, which at the recent census had a population of 102,320.

For the valuable data on which the following statement is based I am indebted to Mr. Burden, the Master of the Brighton Workhouse. It deals with the dates of admission and discharge or death of patients admitted to the Workhouse Infirmary with consumption during the three years ending October 1st. 1901.

I have summarised the results for the three years as follows :—

Total number of days in the Infirmary of

1. Patients admitted for consumption and dying there = 11,742.	Average number of days for each patient = 133.
2. Patients admitted for consumption and still in the Infirmary = 10,721.	Average number of days for each patient = 412.
✓ 3. Patients admitted for consumption and subsequently gone out = 6,547.	Average number of days for each patient = 136. ✓
✓ 4. Patients admitted for consumption and subsequently gone out = 7,488.	Average number of days for each patient = 146. ✓
✓ The same patients re-admitted and still in the Workhouse = 30,186.	
	Average number of days for each patient = 591. ✓

Total number of days of treatment of the above patients in the Infirmary = 66,684.

The number of patients included in the above return is 211. The average number of days in the Workhouse for each patient is 316, and the average number of days in the Workhouse of fatal cases is 133.

It will be noticed that some of the patients are still in the Infirmary. I assume that a corresponding number at the commencement of the three years were at an advanced stage, and almost dying. If this be approximately correct, then the preceding figures give the total number of days' maintenance and care for indoor parochial patients for three years.

In Workhouse Infirmaries administered separately from Workhouses, the average cost per patient per week is about 15s., and the average cost in the Brighton Infirmary, where the Workhouse and Infirmary are administered together is about 7s. per week. On the former basis, the total cost for three years of indoor consumptive patients to the Board of Guardians is £7,146 or £2,382 per annum. On the latter basis, it is £3,334 for the three years, or £1,111 per annum. The preceding statement does not include an estimate of the cost to the local rates of the considerable number of consumptive patients in receipt of out-door relief.

John Platt 1899 = 180  
1900 = 173

Furthermore, the above sum makes no allowance for the amount which is expended in relief to the widows and children of consumptives. Inasmuch as during the working years of life (15 to 55) one out of every four of the total deaths that occur is caused by consumption, it is clear that by diminishing the amount of this disease one will greatly relieve the drain not only upon the funds of the Poor Law and of our Hospitals and Dispensaries, but also that the funds of all the Friendly Societies of the town would very greatly benefit.

Of course, these figures are only approximate. They are, however, most valuable as illustrating the drain on our local rates and other funds which is caused by this terrible disease, and the desirability of finding some means for diminishing this drain.

### *Who should provide Sanatoria?*

It has already been stated that of consumptive patients the rich and well-to-do may be left to take care of themselves, and that the persons most requiring aid are struggling men and women of the working classes and the classes nearest to them, to whom a protracted sickness means financial ruin. These latter persons may be provided for by

- 1.—Private enterprise.
- 2.—Philanthropy.
- 3.—The State or Local Authorities or Boards of Guardians.

### *Private Enterprise.*

There are already a considerable number of sanatoria in which patients who can afford to pay three guineas a week and upwards can receive excellent treatment and have the best prospect of recovery. Such terms are, however, impracticable for the poor and for nearly all members of the working classes. The only form of unofficial enterprise which can meet the requirements of the working classes is through the Friendly Societies. Some attempts have been made in this direction already. At Horne Hall, Stanhope, Durham, a sanatorium has been opened which is supported by the workmen themselves, and by charitable contributions under the following conditions:—

“The yearly expenditure for fifteen to twenty beds is estimated at between £700 and £1,000, and will be met as follows:

“1.—Workmen’s quarterly subscriptions.

“2.—Ordinary subscriptions.

“3.—Weekly payments by patients who do not belong to bodies of workmen subscribing regularly.

“Members of bodies of subscribing workmen have the first claim on the beds for themselves and those dependent on them up to the full value of their total subscriptions. Free beds are allotted according to the value warranted by the money received from ordinary charitable subscribers. All persons not thus entitled to beds must pay £2 2s



a week (which is considered to cover the cost and no more), or to state on the paper how much they can pay and give full account of their circumstances. Any amount below the £2 2s. must then be made good out of the fund produced by subscribers, as in the case of the free beds."\*

In connection with the Westmoreland Sanatorium, arrangements have been made by which workmen by paying a combined subscription of £52 per annum have the constant use of one bed. I think it might be quite practicable to arrange for a similar plan in Brighton. There can be no doubt that the funds of the Friendly Societies of Brighton would benefit to a much larger extent than the amount of their subscription. One of the chief drains upon their funds might be removed by this means. In Germany this fact has been abundantly proved.

*The German System of combatting Consumption with the aid of Compulsory Workmen's Insurance.*

Since the year 1891, all German working-men below a certain wage have been insured against sickness and old age by contributions in equal parts from the employers and the men themselves. This entitles them to an allowance in sickness or when they are over 70 years of age. The insurance is effected by means of local institutions or of clubs under the supervision of the Imperial Insurance Department. Investigation into the causes of sickness of 158,462 persons in receipt of relief shewed that of every 1,000 cases of sickness, 350 were suffering from consumption. This led to the undertaking of methods of cure or of prevention by the insurance societies, and in the year 1900, more than £300,000 were devoted to this purpose, more than one half of this sum being spent on consumptive persons.

In August, 1900, there were in Germany 49 sanatoria for the poor in full working order, and 39 were being built or had been planned. These 49 sanatoria contained 4,000 beds; they cost a million pounds to erect, or about £250 per bed. The yearly expenditure for each occupied bed is estimated at £65, but about one-fifth of this sum goes to the maintenance, when necessary, of the families of the occupants during their period of residence.† Notwithstanding the enormous amount of money spent in the sanatorium treatment of patients in Germany under the above scheme, it is found that the cost of treatment for each case is less than sick pay for 2½ years would have been. The figures as to results of treatment in these German sanatoria are also very interesting.

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\* From a statement issued by the National Association for the Prevention of Consumption.

† These particulars are from "An Address on Our Duty to the Consumptive Breadwinner," by Sir J. Burdon Sanderson, Bart., M.D., F.R.S., Regius Professor of Medicine in the University of Oxford.



The beneficial effects of the treatment in 1897 lasted until two years later in 27 per cent. of the men and 36 per cent. of the women. Of those treated in 1898, 30 per cent. of men and 44 per cent. of women were able to support themselves after the same lapse of time. Statistics for a longer period are not yet available. It is evident that the compulsory insurance of workmen in Germany has given an immense impetus to the sanatorium treatment of consumption in that country. In this country we are proceeding by slower voluntary steps. Much more, however, may be done here, and done more rapidly if the Friendly Societies can be shewn that it is possible by this means greatly to diminish the chief source of drain on their financial resources.

There is no likelihood of a system of compulsory insurance against sickness coming into operation in this country. Sir John Sanderson has suggested that the same object might be partially achieved by the employers of labour consenting to levy a contribution, in which the amount would be proportional to and payable in whole or in part from the wages paid to their workmen, and that such a system would, within its limited scope, probably yield the means of maintaining a sufficient number of sanatoria for the insured when incapacitated by illness. He points out, however, that any such scheme would necessarily exclude toilers of the poorer class, which in Germany chiefly benefit from the operation of compulsory insurance, and that it would moreover fail as a means of promoting the timely removal of consumptive bread earners from their homes, and thus preventing the spread of consumption among the overcrowded population of our towns.

The chief hope of the combined action of workmen is, I think, through the Friendly Societies, and whatever scheme is adopted in Brighton, it is, in my opinion, necessary that their co-operation should be invited on a definite financial basis.

### *Philanthropy.*

The main systematic form of philanthropy in this country is that of the Charity Organisation Society. The Brighton Branch of this Society has the credit of having taken the first practical steps for sanatorium provision for inhabitants of Brighton by subscribing 100 guineas to the Hampstead Consumption Hospital, where the open-air treatment is successfully carried out. Under this arrangement, two beds are at present occupied by Brighton patients.

In other parts of the country, large sums of money have been contributed towards organising sanatoria for the poor. £15,000 has been given by one person, £12,000 by another, £20,000 by a London firm, and at Liverpool a large sanatorium has been erected by the generosity of Mr. W. P. Hartley and one or two other donors. For the poor of Manchester a similar sanatorium has been erected in Delamere Forest entirely at the expense of a private citizen. If a private citizen or citizens of Brighton would be equally

generous in building a sanatorium for the poor of Brighton, the main difficulty would be removed, as the maintenance of such a sanatorium could be easily arranged for by combined municipal and Poor Law action and by the co-operation of Friendly Societies and voluntary contributions.

The provision of Sanatoria for consumption is above all a case for philanthropy, and the philanthropist would have the satisfaction of knowing that by this means he was giving a fresh lease of life to many, whose continuance as wage earners is essential for the welfare of the families of the poor.

### *Public Authorities.*

*Boards of Guardians.*—The provision of sanatoria by Boards of Guardians has already been taken in hand to a considerable extent. At Brighton, the only step taken hitherto has been the provision of a separate ward for male consumptive patients. The majority of these are necessarily advanced cases, and no systematic attempt has been made to secure open-air treatment for any phthisical patient in the Brighton Infirmary. At the Wolverhampton Infirmary, and I believe elsewhere, several special wards have been constructed and set apart for this purpose. The Bramley Board of Guardians maintain one free bed at a sanatorium for consumption. The Board of Guardians for one portion of Bradford have decided to erect a sanatorium for consumption in the Bradford Union. At Liverpool, three Boards of Guardians representing the three Parochial Divisions of the city have combined and have erected a large Sanatorium in Delamere Forest for consumptive patients. This combined scheme has been carried out in order to prevent one Union being imposed upon unduly, and in order to have the scheme on a large basis. A joint committee of the three Unions has been formed. The sanatorium is for the early curing of cases. Other Boards of Guardians have taken, or are, I believe, taking similar action.

### *Local Sanitary Authorities.*

So far as I am aware, no Urban Sanitary Authority has hitherto built a Sanatorium for Consumption. At Sheffield, the Corporation has passed a resolution that a rate-aided sanatorium should be provided for 50 beds, at a roughly estimated cost of £6,000 per annum, including interest and sinking fund. This is a combined scheme in which the Boards of Guardians of the City and the Town Council have combined, the intention being that 50 beds shall be provided for non-paying patients and 10 for paying patients.

County Councils, not being Borough County Councils, have already contributed towards the expenses of sanatoria. The most successful attempt in this direction has been, I believe, that of Westmoreland. A sanatorium containing 20 beds has been supplied at Kendal. This was equipped by the

generosity of Dr. Paget Tomlinson, and is supported by the following Public Bodies of the County :—

	Per Annum.
Westmoreland County Council ... ..	£50
§Kendal Corporation ... ..	52
§South Westmoreland Rural District Council ... ..	52
§Kendal Union Guardians... ..	52
§East and West Ward Guardians ... ..	50
Windermere Urban Council ... ..	10
Grasmere Urban Council... ..	5
Ambleside Urban Council ... ..	5
And private subscriptions amounting in all to near £1,200 a year.	

The four Public Bodies marked § have each a free bed, to which they nominate their own cases. The County Council gives its £50 without any *quid pro quo*. The South Westmoreland Rural Council and Kendal Union Guardians both claim and exercise the right to send in additional cases (beyond that occupying the free bed of each) at £1 per week, provided room can be found.

Private subscribers are grouped in districts, with nominating powers represented by one free bed for every £50 subscribed, thus.—

Kendal ... ..	£208	4 beds
Windermere ... ..	115	2 „
Ambleside ... ..	63	1 bed
Kirkby Lonsdale ... ..	54	1 „
Appleby ... ..	50	1 „
Arnside ... ..	50	1 „
Sedgwick ... ..	50	1 „
Burneside ... ..	50	1 „
Levens ... ..	50	1 „

Thus there are four public and thirteen private free beds, and three spare beds for Guardians and Rural Councils' extra cases. Both sexes are admitted, and all nominating powers are irrespective of sex. So far the cost is found to be about £1 7s. 6d. per head per week, or about £1,250 to £1,300 per annum for 20 beds.

Similar combined action is proposed for Gloucestershire, Somerset and Wiltshire. As at present arranged, it is intended that each of these three counties and the City of Bristol will have allotted to it 15 beds in a joint sanatorium. It is expected that clubs and groups of persons will subscribe to support beds. Thus a group of 300, paying one penny each per week, would have a bed for their own nomination, and they would probably be able to send three or four patients to be treated each year. Other cases nominated in the ordinary way by subscribers would be expected to pay a sum not exceeding 10s.



a week. The difference between the amount thus charged and the 25s. per week, the estimated cost of maintenance for each patient, would have to be collected by subscription, but the Committee do not anticipate that such amount will be more than £300 a year for each of the Counties and the city of Bristol.

A similar scheme has been proposed, on the initiative of Dr. Fraser, Medical Officer of Health of Portsmouth, for the County of Hampshire, and, in September of this year, the following Sanitary Authorities in the county had expressed themselves in favour of a joint sanatorium :—

Alton Urban District Council.  
 Basingstoke Urban District Council.  
 Bournemouth Urban District Council.  
 Farnborough Urban District Council.  
 Fordingbridge Rural District Council.  
 Hartley Wintney Rural District Council.  
 Itchen Urban District Council.  
 Petersfield Urban District Council.  
 Winchester Urban Sanitary Authority,  
 Portsmouth Urban Sanitary Authority.

#### *Cost of Sanatoria.*

The cost appears to vary from £200 to £300 per bed, and the cost of maintenance of each patient from 5s. to 6s. 6d. per diem. At the Westmoreland Sanatorium, the cost of maintenance is 30s. per week, or £78 per annum ; beds however, being offered at £1 per week, and subscribers being trusted to make up the deficiency.

A sanatorium should preferably not contain more than fifty patients. With the necessary staff of nurses and a resident physician, it is stated that it can be made self-supporting upon a charge of £3 a week per patient. The above data enable the probable cost of a sanatorium to be estimated.

#### *Power of Local Authorities to supply Sanatoria for Consumption.*

Section 131 of the Public Health Act of 1875 gives Local Authorities power to provide for the use of the inhabitants of their district hospitals or temporary places for the reception of the sick. There is no qualification in the section itself of the word "sick," although as the section follows sections relating to infectious diseases, there can be no doubt that it was intended to apply to isolation hospitals for such diseases. This need, however, cause no difficulty, as consumption properly belongs to that class.

#### *What Scheme is best for Brighton.*

I assume that Brighton will not allow itself to lag behind other towns in the attempt to cope with this most fatal disease. We have been to the fore in adopting measures of notification of the disease and of improved sanitary



arrangements. It now remains to give those already attacked by it the best possible prospects of recovery and to prevent the immense pecuniary loss to the town, resulting from the lingering illness and death of so many wage-earners.

The alternatives are :—

- 1.—That the Local Authority shall provide Sanatoria for—
  - a.*—Early curable patients.
  - b.*—Patients suffering from advanced disease for whom amelioration can be effected and comforts ensured which at present cannot be obtained by the poor.
- 2.—That they shall provide these in co-operation with the Board of Guardians.
- 3.—That, while thus acting in co-operation, these bodies should invite the aid of private philanthropy. If, as appears to be incumbent upon them, the Town Council, with or without the co-operation of the Board of Guardians, takes up this question, private philanthropy can only be expected to co-operate in the direction of paying for the partial or entire maintenance of particular patients in the proposed Sanatoria. Friendly Societies might similarly be prepared to contribute towards the cost of the maintenance of members of their Societies in the proposed sanatoria, and they have power to do this under the Friendly Societies' Acts.
- 4.—That, as a tentative and intermediate measure for the treatment of patients suffering from consumption at an early stage, the Town Council should undertake to send a certain number of patients to one of the already existing and well-organized Sanatoria for Consumption. This appears to me to be the best plan for immediate adoption. The patients to be thus treated to be recommended to the Sanitary Committee by the Medical Officer of Health, in conjunction with the physicians of the County Hospital, of the Children's Hospital and the Poor Law Medical Officers. The number of patients which the Corporation will undertake thus to treat to be calculated on the basis of an average cost of three guineas a week a patient, and of a treatment for each patient of three to four months. The cost thus to be incurred is not much greater than at the proposed Sanatorium of the Sheffield Corporation, where it is *estimated to be* £120 per annum per bed; and we shall have the advantage of experience before taking further steps.
- 5.—That the Town Council should, independently or in conjunction with the Board of Guardians, erect a Hospital for advanced consumptives. At present the Board of Guardians can only treat patients who have accepted Poor Law relief, and, although patients in the consumptive wards at the Workhouse Infirmary are treated kindly and considerately, I have frequently, as have similarly the Relieving Officers, experienced insuperable objection on the part of patients who were most unfavourably

situated for home nursing to removal to the Infirmary. This difficulty appears to be inseparable from present arrangements. Were it otherwise, parochial patients only form a portion of the patients who need more careful nursing than they can obtain at home, both in their own interests and in the interest of those who live with them in crowded houses.

It would, I believe, be practicable, by dissociating the treatment of consumptives completely from that of other parochial patients, by treating them in detached pavilions, and by making their conditions of life more favourable than is possible in the general wards of the Infirmary, to break down this prejudice, and thus not only prolong and possibly save the lives of a considerable number of consumptives, but also prevent these from creating other cases by infection in connection with unfavourable home conditions. From the last standpoint, the co-operation of the Town Council with the Board of Guardians would be in the interest of the public health, and I beg to recommend that a conference between representatives of the Board of Guardians and the Town Council should be called to discuss this question.

I am, Gentlemen,

Yours obediently,

Medical Officer of Health.

As a result of this report, it has been decided to send and to keep four patients at a time in some Open-Air Sanatorium for Consumption, already established, at the expense of the Town Council.

### SYPHILIS.

During 1901, the deaths of four male and six female infants under one year of age, and of one female under five years were returned as due to this cause, also of one man. The death returns under this head are immensely understated.

### ALCOHOLISM.

During 1901, 11 deaths of men were returned as caused by alcoholism or delirium tremens, and none were over 60 years of age. The deaths do not represent more than a very minute proportion of the mortality really caused by alcoholism. As a rule, the real cause is concealed behind such headings as disease of the brain or spinal cord, apoplexy, heart disease, liver disease, hæmatemesis (vomiting of blood), cirrhosis of liver, gout, Bright's disease, which, with many other diseases, are caused to a very large extent by chronic alcoholic excess.

Thirty-two (15 of men and 17 of women) were caused by cirrhosis of the liver, a disease which is almost solely produced by intemperance. Alcohol has

been described by a well-known physician as the "genius of degeneration," There is no other agent so competent to hurry on the degenerative changes in the system associated with old age ; in other words, *alcohol is one of the chief causes of premature old age*. It is not sufficiently recognised that these evil effects are very commonly produced by the systematic indulgence in an amount of alcoholic drinks that would by most be regarded as moderate ; and that those who, while never becoming intoxicated, daily take a considerable amount of spirits (especially if taken apart from meals) are much more likely to suffer in health and prematurely break down than the labourer who may get drunk once a fortnight and be a teetotaler in the intervals.

TABLE VIII.

*Registered Deaths from Cancer (Malignant Disease).*

Seat of Primary Disease.	Brighton.					
	Three Years 1889-91.		Three Years 1898-1900.		1901	
	M.	F.	M.	F.	M.	F.
Head, Face, Eye, Orbit, Nose, Ear	3	4	4	3	1	3
Jaws ... ..	6	—	2	1	1	—
Mouth, Tongue, Lips ... ..	8	3	7	2	1	1
Neck, Throat, Tonsils, Larynx..	7	8	5	4	5	1
Axilla, Arm, Hand ... ..	—	—	1	2	—	—
Lung, Chest, Mediastinum ...	1	2	2	2	3	4
Œsophagus ... ..	9	1	11	3	4	1
Breast ... ..	—	44	—	44	—	11
Abdomen ... ..	1	11	3	6	1	4
Stomach and Pylorus ... ..	16	15	22	17	12	7
Liver and Gall Bladder ... ..	10	15	16	25	2	10
Pancreas ... ..	3	1	2	4	1	1
Peritoneum, Mesentery ... ..	—	5	3	7	—	4
Intestines (excluding Rectum) ...	4	7	10	9	6	9
Rectum ... ..	5	14	15	15	3	6
Ovary ... ..	—	8	—	5	—	—
Uterus ... ..	—	44	—	43	—	16
Vagina and Vulva.. ... ..	—	—	—	3	—	1
Penis ... ..	—	—	—	—	—	—
Pelvis, Kidney, Bladder, Prostate,						
Urethra ... ..	9	4	2	6	2	1
Testes, Scrotum ... ..	2	—	2	—	—	—
Groin, Leg, Foot ... ..	1	2	3	—	1	—
Spine ... ..	—	—	—	—	2	1
Parts unspecified ... ..	9	16	6	9	—	7
Total ... ..	94	204	116	209	*45	88
Annual Death-rate per 1,000 of } Estimated Population }	·86†		·88		1·07	

\* Of the above deaths, 9 were specially differentiated as sarcoma.

† The mean annual death-rate from cancer in Brighton in 1851-70 was ·30 ; in 1871-80 it was ·75, and in 1881-90 it was ·87 per 1,000

## INQUESTS.

During 1901, 141 inquests were held and the following verdicts returned :—

NATURAL CAUSES	...	...	...	...	...	81
----------------	-----	-----	-----	-----	-----	----

## ACCIDENTAL—

Suffocated by a fallen wall	...	...	...	1
Suffocated, asleep with parents	...	...	...	9
Burns	...	...	...	4
Falls	...	...	...	22
Knocked down by train	...	...	...	1
„ „ bicycle	...	...	...	1
„ „ cart	...	...	...	1
Improper feeding	...	...	...	2
Injury to head at birth	...	...	...	1
Poisoning	...	...	...	2
Anæsthetic	...	...	...	2
Lift accident	...	...	...	1
Shooting	...	...	...	1
Injury to spinal cord (puncture by piece of wood)...	...	...	...	1
			—	49

## SUICIDAL—

Cut throat ...	...	...	...	...	3
Poisoning ...	...	...	...	...	1
Hanging ...	...	...	...	...	1
Shooting ...	...	...	...	...	1
Drowning ...	...	...	...	...	1
			—		7

## OPEN VERDICT—

Found drowned	...	...	...	...	3
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## HOMICIDAL—

Shooting	...	...	...	...	1
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Total	141
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## B

REPORT ON THE WORK OF THE MUNICIPAL HYGIENIC  
LABORATORY.

The work of this laboratory commenced November, 1897. The work in connection with it has greatly increased, as shewn by the following table :—

	1897-8 (14 months).	1899.	1900.	1901.
Widal-Grüber test for Typhoid Fever ...	164	153	95	88
Bacteriological { Diphtheria ... ..	414	2033	2191	2962
Diagnosis of { Phthisis ... ..	21	47	86	125
{ Other Diseases... ..	2	—	—	—

*Diphtheria.*—The number and sources of the swabs taken during 1901 is shewn in the following table. It will be noticed that one-fifth of the town swabs were taken by my deputy or myself. Another one-fifth (page 28) were taken by the Medical Officer to the School Board, the remaining three-fifths by private practitioners. The experience of last year confirms the warning attached to each certificate sent out against trusting to single negative certificates. Apart from this, the bacteriological examinations have been most serviceable in detecting atypical cases of Diphtheria.

*Examinations for the Diphtheria Bacillus.*

	Positive.	Negative.	Doubtful.	Total.
Town specimens { Sent by Doctors ... ..	152	500	108	760
{ Taken by Medical Officer of Health...	44	73	24	141
Hospital Patients—				
Admissions for Diphtheria ... ..	483	340	85	908
„ Searlet Fever ... ..	—	103	9	112
Convalescents from Diphtheria ... ..	330	577	114	1021
„ Searlet Fever ... ..	—	19	1	20
	1009	1612	341	2962

*Typhoid Fever.*—88 specimens of blood were examined for practitioners, and three others. Of the 91 specimens 31 gave a positive, 42 a negative and 18 an inconclusive result.

*Phthisis.*—125 specimens of expectoration were examined ; 48 shewing tubercle bacilli and 77 not.

*Water Analyses.*—During 1901 quantitative analyses have been periodically made of the water from all the sources from which Brighton is supplied, viz. :—

Well.	No of Samples.
Goldstone ... ..	53
Lewes Road... ..	14
Shoreham ... ..	13
Patcham ... ..	14
Mile Oak ... ..	7

## C.—BOROUGH SANATORIUM.

The following table gives a summary as to patients treated in the Borough Sanatorium during 1901 :—

TABLE IX.

*Number of Patients during 1901.*

DISEASE.	Remaining in the Hospital on Dec. 31st, 1900.	Admitted during 1901.	Total number treated during 1901.	Number discharged during 1901.	Number who have died in the Hospital during 1901.	Remaining under treat- ment on Dec. 31st, 1901.
Scarlet Fever...	34	155	189	170	1	18
Enteric Fever...	10	27	37	29	3	5
Measles ...	—	2	2	2	—	—
Diphtheria ...	43	646	689	589	51	49
Small Pox and Contacts ...	—	5	5	5	—	—
Other Diseases	—	6	6	3	3	—
TOTALS ...	87	841	928	798	58	72

Of the above patients, one was admitted from Purley Lodge, Patcham. The total also includes the following cases among the staff :—2 Scarlet Fever, 1 Enteric Fever, 5 Diphtheria, 1 Pleurisy and 1 Rheumatism.

The following table gives the number of patients for whom payment was claimed, and the amount claimed in each case.

TABLE X.

By whom Payable.	Number of Patients.	Amount Payable.
Brighton Board of Guardians... ..	2	£ s. d. 7 12 3
Private Patients... ..	16	137 11 0
Disinfection, and hire of van for Patients not removed to Sanatorium . . . . .	—	3 6 0
		148 9 3

The items in the following statement have been furnished by Mr. Stevens, the Borough Accountant :—

*Expenditure at Sanatorium.*

	1895.		1896.		1897.		1898.		1899.		1900.		1901.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Salaries and Wages—	150	0 0	177	6 0	150	0 0	150	0 0	150	0 0	150	0 0	150	0 0
Medical Officer ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Deputy Medical Officer ... ..	76	17 6	79	19 0	79	19 0	79	19 0	79	19 0	79	19 0	79	19 0
Matron and Steward ... ..	416	14 7	431	7 2	499	19 5	610	19 6	1073	13 6	1278	17 9	1005	11 5
Nurses, Porters and Servants ... ..	713	6 10	730	13 9	941	6 2	1140	9 5	2251	8 6	2173	1 4	1562	1 3
Groceries, Provisions, &c. ... ..	36	19 4	42	0 11	75	17 8	133	1 1	243	1 4	332	15 9	368	3 4
Medical Sundries and Disinfectants ... ..	59	14 7	84	19 4	102	13 7	204	0 4	266	3 8	198	6 4	167	5 3
Drapery Goods (including Uniforms) ... ..	401	8 3	254	15 7	296	19 2	434	1 4	717	0 5	917	15 1	877	16 11
Lighting and Heating ... ..	41	1 8	44	1 8	43	1 8	49	1 8	59	12 9	94	12 9	141	16 8
Rates and Taxes (including Water Rate) ... ..	17	11 6	17	11 6	17	11 6	18	4 6	23	19 6	18	17 3	16	16 9
Fire and Boiler Insurance ... ..	14	5 10	11	18 9	10	14 8	36	5 8	37	6 9	51	17 6	44	6 5
Printing, Stationery and Advertising ... ..	16	14 0	9	7 0	27	6 6	210	8 5	104	19 3	185	1 8	134	6 5
Repairs, &c. ... ..	94	14 10	77	5 7	96	18 2	132	12 3	106	7 2	251	14 1	279	5 4
Miscellaneous... ..	15	2 9	10	10 0	4	4 0	8	13 0	18	16 0	18	18 0	23	2 0
Fees to Surgeons ... ..	8	15 9	45	2 6	28	13 9	43	12 3	106	15 0	28	12 6	52	9 3
Hire of Institution Nurses... ..	112	1 1	123	11 5	113	9 4	216	3 2	611	13 2+	180	4 5	132	13 6
Gardener, Garden, Sundries and Manure ... ..	—	—	—	—	—	—	—	—	—	—	157	2 3	—	—
Hospital Huts ... ..	—	—	—	—	—	—	—	—	—	—	—	—	33	12 1
Hose and Fittings ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Expenditure in the Year ... ..	2175	8 6	2140	10 2	2449	6 8	3467	11 7	5850	6 0	6117	15 8	5090	5 7
No. of Patients in the Year ... ..	284		350		451		619		1304		1176		841	
Total No. of Weeks spent by above Patients in the Sanatorium ... ..	1517		1887		2498		3260		7006		6296		4006	
Total Cost per week for each Patient, including all the Working Expenses ... ..	s. d. 28 8		s. d. 22 8		s. d. 19 9		s. d. 21 3		s. d. 16 8		s. d. 18 7		s. d. 25 4½	

†Including £365 5s. 5d. for asphaltting paths.

*Articles Disinfected, 1901.*

Mattresses ...	...	...	...	...	...	...	...	538
Palliasses ...	...	...	...	...	...	...	...	348
Beds ...	...	...	...	...	...	...	...	522
Bolsters ...	...	...	...	...	...	...	...	570
Pillows ...	...	...	...	...	...	...	...	1411
Sheets ...	...	...	...	...	...	...	...	211
Blankets ...	...	...	...	...	...	...	...	1660
Carpets ...	...	...	...	...	...	...	...	262
Curtains ...	...	...	...	...	...	...	...	126
Dresses ...	...	...	...	...	...	...	...	499
Coats ...	...	...	...	...	...	...	...	458
Trousers ...	...	...	...	...	...	...	...	292
Cushions ...	...	...	...	...	...	...	...	422
Quilts ...	...	...	...	...	...	...	...	476
Boxes of wearing apparel...	...	...	...	...	...	...	...	35
Articles of wearing apparel	...	...	...	...	...	...	...	3738

**D.—SANITARY WORK OF THE YEAR.****SANITARY INSPECTIONS.**

In the following tables, prepared by Mr. Skinner, the Chief Sanitary Inspector, the work of the Sanitary Department is stated, so far as it can be given in tabular form. It will be seen that 10,286 houses were visited in the course of house-to-house inspection, as compared with 8,598 in 1900. This, however, does not represent the total number of houses visited during the year. Apart from house-to-house inspection, a large proportion of the time of the inspectors is occupied in attending to complaints received from householders in every part of the town. During last year 1,018 such complaints received attention, as compared with 1,245 in the previous year. In addition, 5,080 visits were made for purposes of investigation and disinfection after cases of infectious disease. In each of these cases it is the practice to take the opportunity of making a sanitary examination of the houses visited. 3,060 visits were made during the year to Slaughter-Houses, 21 to Cowsheds, 396 to Bakehouses, 1,697 to Dairies and Provision Shops. The Common Lodging-houses have received 163 visits. In 122 houses the soil-pipe has been tested by volatile tests ; and 454 drains have been opened for examination. For particulars of the work see the table on the next page.



TABLE XII.—*Inspections during 1901.*

	1st Qrtr.	2nd Qrtr.	3rd Qrtr.	4th Qrtr.	Totals for 1901.	Totals for 1900.
Number of Streets Inspected ... ..	74	106	67	79	326	258
„ Houses and other Premises Inspected... ..	2800	3042	2210	2234	10286	8598
Number of Complaints attended to ... ..	223	255	318	222	1018	1245
„ Visits to Slaughter Houses ... ..	826	755	841	638	3060	2964
„ Visits to Cowsheds ... ..	4	4	6	7	21	18
„ „ Bakehouses ... ..	198	—	198	—	396	396
„ „ Dairies and Provision Shops ... ..	440	136	527	594	1697	1525
Number of Day Visits to Common Lodging- Houses ... ..	15	36	40	21	112	91
Number of Night Visits to ditto ... ..	11	16	10	14	51	23
„ Visits in respect of Sickness ... ..	561	428	608	1577	3174	4586
„ Visits to Fumigate Rooms ... ..	228	148	313	393	1082	1515
„ Visits for Removal of Bedding ... ..	119	121	263	321	824	1289
„ Drains tested by Volatile Test ... ..	15	48	29	30	122	119
„ Drains Opened for Examination... ..	144	118	108	84	454	530
„ Visits for Sundry Purposes ... ..	1272	1017	2273	2403	6965	7626
„ Visits to look up Notices Served... ..	1747	2177	1944	1719	7587	7469
„ Attendances at Police Court ... ..	13	9	9	13	44	43
„ Samples Collected for Analysis ... ..	135	94	153	120	502	486
„ Inspections of Stables ... ..	303	414	417	317	1451	1427
„ Wastes of Water reported... ..	53	36	43	34	166	158
„ Letters sent to Schools and Public Library ... ..	573	450	650	599	2272	4501
Meteorological Observations taken ... ..	169	169	169	169	676	676
Visits to Schools ... ..	106	52	50	111	319	476
Number of Visits to Offensive Trades ... ..	—	—	2	—	2	3
„ Visits under Factory & Workshops and Shop Hours Acts ... ..	609	884	646	1328	3467	3286
Drains flushed ... ..	—	—	—	—	—	10
Circulars delivered <i>re</i> Diarrhœa ... ..	—	10000	—	—	10000	10000
Markets Committee, 1 Inspector ... ..	—	—	14 dys	—	14 dys	14 dys
Visits to Houses Let in Lodgings (Day) ... ..	60	32	38	33	163	322
Visits to Houses Let in Lodgings (Night) ... ..	—	20	—	—	20	6
Smoke Observations ... ..	2	22	5	18	47	29
Number of visits under Contagious Diseases (Animals) Act ... ..	4	77	—	—	81	—
Number of visits to Ice Cream Vendors ... ..	—	47	—	—	47	—

The Sanitary Inspections enumerated in Table XII. have been followed by the serving of the notices given in Tables XIII. and XIV. A very large proportion of the work is done on the strength of verbal recommendations or preliminary “warning” notices.

TABLE XIII.—*Notices served on Owners during 1901.*

Nature of Notice.	Warning and Verbal Notices.			Final Notices.		Total Number of Notices on owners complied with.
	Number served.	Number complied with before service of final notice.	Number reported for final notice.	Number served.	Number complied with.	
To drain into sewer and fill up cesspools ... ..	8	3	5	3	3	6
To relay drain and fill up cesspools ... ..	6	3	3	4	4	7
To relay drain ... ..	276	178	98	109	107	285
To repair drain and soil pipe ...	159	92	67	70	70	162
To trap drain ... ..	91	53	38	57	57	110
To cleanse & whitewash rooms	426	265	161	194	192	457
To clear drain or soil pipe ...	93	18	75	89	89	107
To clear, repair or cleanse closet, or repair flushing apparatus or pan ... ..	594	340	254	316	315	655
To repave yard or scullery ...	281	149	132	215	209	358
To abate other nuisances ...	1145	670	475	658	632	1302
To provide covered dust bins ...	662	324	338	490	467	791
To provide premises with a proper water supply ... ..	2	—	2	2	2	2
To cleanse premises and remove foul accumulations ... ..	—	—	—	5	5	5
To provide manure receptacles	14	6	8	15	13	19
To fill up underground manure pits ... ..	11	5	6	12	10	15
To provide w.c. accommodation	1	—	1	2	2	2
To lay on water to closet ...	25	7	18	22	22	29
To alter water pipes ... ..	2	1	1	1	1	2
To cause waste pipes to discharge into outer air ... ..	8	7	1	4	4	11
To pave and drain stables ...	7	2	5	8	8	10
To cleanse & whitewash work-rooms ... ..	2	—	2	—	—	—
To provide separate w.c. accommodation ... ..	3	1	2	2	2	3
Totals ... ..	3816	2124	1692	2278	2214	4338

TABLE XIV.—*Notices served on Occupiers during 1901.*

Nature of Notice.	Warning and Verbal Notices.			Final Notices.		Total number of notices on occupiers complied with.
	Number served.	Number complied with before service of final notice.	Number reported for final notice.	Number served.	Number complied with.	
To cleanse and white-wash rooms	14	10	4	6	6	16
To clear drain or soil pipe ...	12	9	3	3	3	12
To clear, repair or cleanse closet, or repair flushing apparatus or pan ... ..	195	133	62	59	57	190
To abate other nuisances ...	57	44	13	11	11	55
To discontinue keeping animals so as to be a nuisance ...	92	44	48	50	50	94
To abate overcrowding ...	62	36	26	30	20	66
To abate smoke nuisance ...	8	8	—	2	2	10
Cleanse and white-wash bake-houses ... ..	126	107	19	17	17	124
Cleanse and white-wash work-rooms ... ..	22	17	5	11	11	28
To discontinue to let or occupy cellar dwellings ...	1	1	—	—	—	1
Cleanse premises and remove all foul accumulations ...	281	184	97	100	99	283
To repave yard or scullery ...	2	2	—	1	1	3
To provide separate W.C. accommodation ... ..	3	3	—	—	—	3
<b>Totals ... ..</b>	<b>875</b>	<b>598</b>	<b>277</b>	<b>290</b>	<b>287</b>	<b>885</b>
<b>Total of notices served on owners</b>	<b>3816</b>	<b>2124</b>	<b>1692</b>	<b>2278</b>	<b>2214</b>	<b>4338</b>
<b>Total notices served ... ..</b>	<b>4691</b>	<b>2722</b>	<b>1969</b>	<b>2568</b>	<b>2501</b>	<b>5223</b>

The increased readiness with which notices are complied with has been continued during 1901, as evidenced by Table XV.

TABLE XV.

Date of Annual Report.	Year under Report.	Percentage of notices not complied with at time of issue of Report.
March 23rd, 1889 ... ..	1888	20 per cent.
February 13th, 1890 ... ..	1889	14 "
March 31st, 1891 ... ..	1890	4.3 "
March 16th, 1892 ... ..	1891	3.2 "
April 21st, 1893 ... ..	1892	1.3 "
April 13th, 1894 ... ..	1893	0.8 "
April 15th, 1895 ... ..	1894	1.3 "
June 20th, 1896 ... ..	1895	0.0 "
April 12th, 1897 ... ..	1896	0.4 "
March 14th, 1898 ... ..	1897	0.8 "
March 27th, 1899 ... ..	1898	1.8 "
February 26th, 1900 ... ..	1899	2.8 "
March 23rd, 1901 ... ..	1900	1.0 "
March 29th, 1902 ... ..	1901	0.9 "

No summonses were required during the year for non-compliance with notices to abate nuisances.

#### COMMON LODGING HOUSES.

During 1901 there were eight on the register, accommodating 251 lodgers. Of these four were newly registered for 53 lodgers during the year. One keeper was fined 40s. and costs for keeping an unregistered house.

#### HOUSES LET IN LODGINGS.

Bye-laws for houses of a rateable value not exceeding £26, and having three families in them if the landlord lives in the house, or two if the landlord does not live in the house, were confirmed by the Local Government Board on 13th July, 1898, and 66 such houses are now on the register, as compared with 83 at the end of 1900. Four of the houses originally registered under these bye-laws have since been registered as common lodging houses.

In 28 houses the tenants have died or left the houses, and they have been re-let as private houses. Ten houses have been placed on the register during the year.

#### HOUSING OF THE WORKING CLASSES ACT.

##### PART I.

The proceedings for the clearing of the Spa Street area are slowly advancing.

In Dewe Road, off the Lewes Road, 30 houses began to be built by the Corporation in September last and are now nearing completion. These are four-roomed cottages with 15 ft. frontages.



The following is a financial statement, supplied by the Borough Accountant, of the five-roomed houses belonging to the Corporation in St. Helen's Road, which are let at a weekly rental of 7s. 6d.

*Working Class Dwellings, St. Helen's Road.*

Income and Expenditure—Year ended 31st December, 1901.

Dr.	Expenditure.					Income.			Cr.
		£	s.	d.			£	s.	d.
Rates and Taxes ...	...	106	19	1	Rents ...	...	536	12	6
Repairs ...	...	12	15	1					
Fire Insurance ...	...	5	5	0					
Commission for Collecting									
Rents ...	...	13	8	2					
Loan Charges ...	...	389	12	4					
		527	19	8					
Balance ...	...	8	12	10					
		£536	12	6			£536	12	6

PART II.

Official representations have been made by me, under Part II. of the above Act during 1901, that the following premises are in a state so dangerous to health as to be unfit for human habitation :—

Situation of Premises.	No. of houses	Legal proceedings taken.	Result.
Preece's Buildings ...	9	No.	Under consideration.
Hereford Street ...	2	No.	Put into thorough repair.

STREET SANITATION.

During 1901 the following streets were tar-paved :—Providence Place (between Cheapside and Ann Street) and Carlton Row. During 1901 the new electric tram routes have been paved with wood, either the entire road or between the tracks. The tar-paving, as well as to a less extent wood-paving, lends itself to much more efficient scavenging than the old macadam roads. This condition can only be fulfilled, however, by daily washing as well as systematic scavenging.

## REMOVAL OF HOUSE REFUSE.

In accordance with the arrangement made with the Borough Surveyor's Department, the following information has been supplied to me and the necessary notices served in each instance:—

Refused to have refuse removed	...	...	...	none
No answer on dustmen calling	...	...	...	1
No bins, defective bins, &c.	...	...	...	155
Other sanitary defects	...	...	...	12

## FACTORY AND WORKSHOP ACTS.

During 1901, 3469 visits had been made; 1776 of these being inspections, the remainder being for the purpose of serving Notices and affixing forms and the looking up of Notices served.

529 inspections were of Bakehouses.

188	„	„	Factories.
174	„	„	Workshops employing protected persons.
114	„	„	Adult Male Workshops.
198	„	„	Domestic Workshops and outworkers.
569	„	„	Premises coming under the Shop Hours Act.

During the year 161 Workrooms have been measured up in accordance with Section 1 of the Factory and Workshop Act, making a total of 1087 since the passing of the Act. This section requires that there shall be 250 feet of cubic space for each person in a workshop during the day, and 400 feet for each person during overtime. The Act also requires that a notice shall be kept exhibited in each room, stating the number of persons who may be employed. These notices are supplied by us on cards, which can be conveniently hung.

The following defects have been found in the course of Inspector Mills' inspections during the year. Notices to remedy these defects have been well complied with, at the present time only 2 being outstanding:—

Workshops requiring cleansing or whitewashing	...	...	...	49
„ overcrowded	...	...	...	9
„ without proper ventilation	...	...	...	12
„ damp and dilapidated...	...	...	...	1
„ without closet accommodation	...	...	...	6
„ without separate closet accommodation for sexes	...	...	...	7
Bakehouses requiring cleansing or whitewashing...	...	...	...	119
Closets with flushing apparatus defective...	...	...	...	28
„ defective	...	...	...	26
Closet pans foul	...	...	...	44
Closets unventilated	...	...	...	13
„ without water supply	...	...	...	7
„ choked	..	...	...	6

Drinking water cistern foul	...	...	...	...	...	2
Drains defective	...	...	...	...	...	16
Drains ventilators defective	...	...	...	...	...	4
„ choked	..	...	...	...	...	4
„ untrapped	...	...	..	...	...	8
„ traps choked and foul	...	...	...	...	...	3
Soil pipes defective	...	...	...	...	...	7
Paving of yards or laundries defective	...	...	...	...	...	15
Without proper dust bin	...	...	...	...	...	17
Waste pipes defective	...	...	...	...	...	17
Animals kept in dirty condition	...	...	...	...	...	6
Sinks leaky	...	...	...	...	...	14
Yards dirty	...	...	...	...	...	34
Foul accumulations on premises	...	...	...	...	...	22
Roof and rain water pipes defective	...	...	...	...	...	9
Premises in foul condition...	...	...	...	..	...	9
Urinals foul and defective	...	...	...	...	...	19
* Lead workers' workshops without washing conveniences	...	...	...	...	...	8
Encroachment on air space	...	...	...	...	...	2
Unventilated gas stoves in workrooms	...	...	...	...	...	3
Washhouses without footboards	...	...	...	...	...	2
Drain traps in bakehouses	...	...	...	...	...	2
Premises drained to Cesspool	...	...	...	...	...	1
						<hr/> 55 <sup>1</sup>

\* Circulars left in each case.

During the year H.M. Inspector of Factories has made complaint in respect of sanitary defects in ten Workshops. These have been attended to, and reports made in accordance with the Act to H.M. Inspector.

Notice has been sent to H.M. Inspector in respect of 36 Factories and Workshops which were employing protected persons, but were without Abstracts and proper Forms.

Six complaints in respect of irregular hours of work in Workshops have been forwarded to H.M. Inspector.

#### SHOP HOURS ACT.

#### SEATS FOR SHOP ASSISTANTS ACT.

Complaints were made in respect of two shops as to young persons working beyond the 74 hours allowed by the Act, but in each case the time worked was found to be under the legal amount. Forty-two shops employing persons under 18 years of age were found without the Abstract shewn, but these have now been affixed. In the course of his inspections during the year, Inspector Mills has

visited 22 shops employing more than 3 female assistants; 21 of these had provided seats and the remaining one did so on attention being called to the provisions of the Seats for Shop Assistants Act, 1899.

## SALE OF FOOD AND DRUGS ACT.

### Report of Inspector Cuckney—

Number of samples collected ...	...	...	...	...	502
„ „ adulterated ...	...	...	...	...	93
„ prosecutions ...	...	...	...	...	10
„ convictions... ..	...	...	...	...	6
„ withdrawn .. ...	...	...	...	...	4
„ Dismissed ... ..	...	...	...	...	0
Aggregate amount in fines ...	...	£28	0	0	
Analyst's fees recovered ...	...	2	0	0	
		<hr/>			
		£30	0	0	
		<hr/>			
Cost of samples ... ..	...	£5	10	0 <sup>1</sup> / <sub>4</sub>	
Cost of analyses ... ..	...	137	2	0	
Analyst's salary... ..	...	50	0	0	
Inspector's salary ... ..	...	12	0	0	
Cost of assistance, postage and railway fares ... ..	...	9	4	0	
		<hr/>			
		213	16	0 <sup>1</sup> / <sub>4</sub>	
Fines and Analyst's fees recovered ...	...	30	0	0	
		<hr/>			
Net cost of working the Act ...	...	£183	16	0 <sup>1</sup> / <sub>4</sub>	
		<hr/>			

The samples collected were :—Milk 260, Butter 55, Margarine 19, Cheese 20, Lard 4, Beer 12, Condensed Milk 8, Sweets 14, Golden Syrup 6, Pepper 12, Ground Ginger 6, Baking Powder 4, Oatmeal 1, Spirits 24, Jams 14, Marmalade 2, Mustard 7, Demerara Sugar 4, Cocoa 4, Sugar 1, Sausages 5, Honey 1, Peas 1, Camphorated Oil 2, Olive Oil 2, Sodium Sulphate 6, Epsom Salts 4, Seidlitz Powders 4.

Three milk sellers were fined amounts varying from £5 to £1. Three provision dealers were fined amounts varying from £10 to £5; two of these were fined for adulterating with Margarine 96 per cent., and one for adulterating with 6 per cent. of added water.



## THE PUBLIC ABATTOIR.

1901 is the seventh complete year of working the Abattoir.

The following statement, supplied by Inspector Cuckney, the superintendent of the Abattoir, gives the number of animals slaughtered in the public and private slaughter-houses at the Abattoir :—

Year.	In the Public Slaughter-Houses					In the Private Slaughter-Houses					Total.
	Beasts.	Calves.	Sheep.	Lambs.	Pigs.	Beasts.	Calves.	Sheep.	Lambs.	Pigs.	
1895	89	95	694	113	4182	187	71	1231	329	—	6991
1896	333	253	1549	201	4134	58	69	990	201	3391	11184
1897	589	384	3077	224	2442	16	69	1145	158	3950	12054
1898	1008	503	4114	458	2645	6	11	229	31	3322	12650
1899	1409	653	5650	491	3560	—	—	—	—	4621	16384
1900	1471	879	4977	374	4868	93	39	1049	206	4348	18304
1901	1530	866	5221	557	4440	57	40	1683	226	3025	17645

The amount received in tolls since the opening of the Abattoir has been as follows :—November and December, 1894, £7 13s. 4d. ; 1895, £102 15s. 4d. ; 1896, £122 4s. ; 1897, £115 7s. 7d. ; 1898, £185 10s. 3d. ; 1899, £243 9s. 4d. ; 1900, £279 17s. ; 1901, £271 13s. 10d. In addition to the above amounts there is also an income of £85 per annum from the rental of private slaughter-houses at the Abattoir.

## UNSOUND MEAT SEIZED OR SURRENDERED DURING 1901.

Description.	Number of Animals.	Number condemned by Magistrate.	Number destroyed by arrangement with Owner.	Total weight in lbs.
<i>A.—At the Abattoir—</i>				
Bullocks (whole carcase) ...	9	—	9	5,732
„ (part of carcase) ...	195	—	195	3,294
Calves (whole carcase) ...	1	—	1	48
„ (part of carcase) ...	7	—	7	44
Sheep (whole carcase) ...	9	—	9	487
„ (part of carcase) ...	69	—	69	152
Pigs (whole carcase)...	14	—	14	1,857
„ (part of carcase) ...	310	—	310	1,443
<i>B.—In the Private Slaughter-houses and Shops—</i>				
Bullocks (whole carcase) ...	7	1	6	3,956
„ (part of carcase) ...	271	4	267	3,914
Calves (whole carcase) ...	1	—	1	100
„ (part of carcase) ...	—	—	—	—
Sheep (whole carcase) ...	9	—	9	570
„ (part of carcase) ...	9	—	9	35
Pigs (whole carcase)...	5	1	4	357
„ (part of carcase) ...	42	—	42	376
	958	6	952	22,365

The total amount of meat destroyed in connection with the private slaughter-houses in the Borough was 9,308 lbs. ; at the Abattoir, 13,057 lbs.

Of the beasts, 1 heifer and 8 cows, and 184 parts of beasts were found to be tuberculous, 4 pigs and 123 parts of pigs were also found to be tuberculous.

#### OTHER FOODS SEIZED OR SURRENDERED DURING 1901.

Cherries	...	65	bushels	}	Voluntarily surrendered.
Plums	...	66	„		
Peaches	...	59	boxes		
Bananas	...	7	crates		
Pears	...	3	bushels		
Lemons	...	11	cases		
Oranges	...	4	„		
Fowls	...	29			

#### SEIZED AND ORDERED TO BE DESTROYED BY MAGISTRATE.

Herrings	...	...	...	...	248
Anchovies	...	...	...	...	88 barrels
„	...	...	...	...	3 bottles
Herrings	...	...	...	...	26 tins
Plums	...	...	...	...	1 bottle
Artichokes	...	...	...	...	1 „

Two butchers were each fined £5 and costs for depositing diseased meat at a slaughter-house in the Borough.

A farmer was also fined £5 and costs for selling diseased pork to a butcher in the Borough.

## E.—PUBLIC ANALYST'S REPORT.

Report on samples analysed under Sale of Food and Drugs Act during the  
year 1901.

By M. WYNTER BLYTH, B.A. (Cantab), B.Sc. (Lond.), F.I.C., F.C.S.

Samples of	Number of samples.	Adulterated.	Percentage Adulterated.	Nature of Adulteration.
Milk ... ..	248	72	29·03	Deficient in fat. Watered. Pre- served and coloured.
Butter ... ..	55	8	14·54	Foreign fat. Excess of water.
Margarine ... ..	19	—	—	
Cheese ... ..	20	—	—	
Condensed milk	8	—	—	
Lard ... ..	4	—	—	
Beer ... ..	12	—	—	
Spirits ... ..	24	—	—	
Jam ... ..	16	6	37·50	Glucose. Salicylic acid.
Sweets ... ..	14	—	—	
Golden syrup ...	6	—	—	
Sugar ... ..	5	—	—	
Honey ... ..	1	—	—	
Epsom salts ...	4	—	—	
Seidlitz powders	4	—	—	
Camphorated oil	2	1	50	5 per cent. excess of camphor.
Olive oil... ..	2	—	—	
Sodium sulphate	6	—	—	
Ginger ... ..	6	—	—	
Baking powder...	4	—	—	
Pepper ... ..	12	1	8·33	Pepper hulls.
Mustard... ..	7	1	14·28	Starch and turmeric.
Cocoa ... ..	4	3	75·00	Starch and sugar.
Sausages ... ..	5	—	—	
Tinned peas ...	1	1	100	Coloured with copper sulphate.
Oats ... ..	1	—	—	
Total ... ..	490	93	18·97	

*Milk*.—The year marked an important turning point in the control of the milk supply of Great Britain, as the Board of Agriculture issued regulations on August 5th, 1901, definitely fixing certain standards for milk and skimmed or separated milk. The standards fixed are for milk not less than 3 per cent. of fat, and not less than 8·5 per cent. of milk solids other than milk fat; and for skimmed or separated milk not less than 9 per cent. of milk solids. These standards although not so high in the case of milk as those recommended by the Departmental Committee on milk and cream regulations 1901, are I think generally recognized as being sufficiently high to afford a fair degree of protection to the public.

The same Departmental Committee also recommended that the artificial thickening of CREAM by any addition of geletine or other substance shall raise a

presumption that the cream is not genuine, and that any *Condensed Milk* (other than that labelled "machine skimmed milk" or "skimmed milk" in conformity with Section 11 of the Food and Drugs Act, 1899) in which either the amount of milk fat is less than 10 per cent., or the amount of non-fatty milk solids is less than 25 per cent., shall be deemed to be so deficient in some of the normal constituents of milk as to raise a presumption, until the contrary is proved, that it is not genuine. The Board of Agriculture has as yet issued no regulations giving effect to these two recommendations.

The following table, arranged so as to compare the results of the year 1900 with those of 1901, gives only those samples which were above or below the standards laid down by the Board of Agriculture, and does not take into consideration the samples adulterated with preservatives or colouring matters.

*Total Samples of Whole Milk collected, and proportion Watered and Skimmed in 1900 and 1901.*

		Total Samples.	Below Standard.	Per cent. below Standard.	Average per cent. of Fat.
Weekday Samples	Wholesale ... 1900	80	1	1·25	4·30
	Wholesale ... 1901	97	0	0	3·96
	Retail ... 1900	119	25	21·08	3·30
	Retail ... 1901	98	12	12·24	3·60
Sunday Samples	Wholesale ... 1900	12	0	0	4·37
	Wholesale .. 1901	0	0	0	0·0
	Retail ... 1900	36	11	30·5	3·29
	Retail ... 1901	48	6	12·5	3·47

From the above table it may be seen that the percentage of adulterated samples has been reduced in retail week-day samples from 21·08 per cent. in 1900 to 12·24 per cent. in 1901, and in Sunday samples from 30·5 per cent. in 1900 to 12·5 in 1901. The average fat in week-day samples has been increased from 3·3 per cent. in 1900 to 3·6 per cent. in 1901, and in Sunday samples from 3·29 per cent. in 1900 to 3·47 per cent in 1901. The high standard of quality observed in wholesale milks during 1900 has been well maintained during 1901, not a single sample being found to be either watered or skimmed. The above results are, in my opinion, very satisfactory, especially in the case of Sunday samples, and I hope in future years to be able to record a still further reduction in the number of adulterated samples.

If, however, we turn to other forms of adulteration, namely, the addition of preservatives and colouring matter to milk, the position is far less satisfactory.

The Departmental Committee appointed in July, 1899, to enquire into the use of preservatives and colouring matters in food, issued their report in November last, and recommended *inter alia* that "the use of any preservative or



colouring matter whatever in milk offered for sale in the United Kingdom be constituted an offence under the Sale of Food and Drugs Act."

In anticipation of this report, during the year I made a very careful examination of every sample of milk received, and kept careful records of the results ; as should the Board of Agriculture issue regulations giving effect to this recommendation, it will be valuable to know to what extent prosecutions are able to reduce these forms of adulteration. That the addition of colouring matter and preservatives could be reduced by prosecutions cannot be doubted in face of what has been done in the case of watering and skimming.

The figures for 1901 are as follows :—

*Adulterated Samples, 1901.*

				Total Samples.	All Forms of Adulteration.	Percentage of Adulteration.
Week day Samples	{	Wholesale ... ..		97	1	1·03
		Retail... ..		98	41	41·83
Sunday Samples	{	Wholesale ... ..		0	0	0·00
		Retail... ..		48	25	52·08
		Separated Milk ...		5	5	100·00
Total ... ..				248	72	29·03

The nature of the adulteration was as follows :—

*Retail Samples.*—Fat abstracted 9, watered 4, watered and fat abstracted 1, fat abstracted and coal tar colour present 4, fat abstracted and preservative present 3, watered and preservative present 2, coal tar colour present 20, coal tar colour and preservative present 2, preservative present 21.

*Wholesale Samples.*—Coal tar colour present 1.

*Separated Milk.*—Watered and preservative present 1, preservative present 3, whole milk sold as separated 1.

In addition to the 248 milks submitted to me under the Sale of Food and Drugs Act, 12 samples were sent to me by Inspector Cuckney in order to ascertain to what extent the natural rising of cream in milk could account for the deficiency of fat so often observed in commercial samples. The samples were taken by Inspector Cuckney from pans, at intervals varying from 15 minutes to 60 minutes, as far as possible in the same manner as if serving a customer. The milks were not originally rich in fat *i.e.* (1) 3·35 per cent. ; (2) 3·3 per cent. but in none of the samples submitted to me did the fat fall below the recognized standard of 3·0 per cent., and I think the experiments clearly show that the milk vendor who exercises reasonable care, runs but little risk of serving

some customers with very rich milk, and then finding his milk falls below the standard of 3·0 per cent. of fat.

*Butter and Margarine.*—Fifty-five samples of butter and 19 samples of margarine were examined during the year. Two of the butters were found to consist of margarine, *i.e.*, foreign fat containing less than 10 per cent. of butter fat. Six of the samples of butter contained an excess of water; the excess of water being due to the fact that they had been re-worked with milk by a special process whereby the water is increased over the maximum usually found in genuine butters, *i.e.*, 16 per cent. There is as yet no standard for water in butter, but a Departmental Committee is at present investigating the subject, and will probably report during the present year.\* The amount of water in the above butters varied from 18·5 to 25 per cent., and they also contained borax in quantities varying from 0·1 to 0·4 per cent., calculated as boric acid.

The Departmental Committee, on the preservation and colouring of food, 1901, in their report have recommended that the only preservative permissible in butter and margarine be boric acid or mixtures of boric acid and borax, to be used in proportions not exceeding 0·5 per cent., expressed as boric acid.

None of the butters examined containing borax during the year exceeded the quantity recommended by the Committee. A few of the samples of margarine contained more than 0·5 per cent. of boric acid.

It is in my opinion a matter for regret that the Committee have drawn no distinction between “fresh butter” and other kinds of butter. “Fresh butter” should from its very name be butter which has not been preserved by the addition of borax compounds or other preservatives. At present heavily preserved foreign butters can be sold and are sold as “fresh butter,” and the purchaser has no means of distinguishing between them and genuine fresh butters free from preservatives. Had the Committee recognised such a commodity as “fresh butter,” it would, I think, have afforded the purchaser a much needed protection.

Of the butter samples examined during the year, 23 contained borax as a preservative and 25 were coloured by means of coal tar dyes. The whole of the samples of margarine without exception contained borax and were coloured with coal tar dyes.

*Other Samples.*—The samples of sodium sulphate, beer, golden syrup and all samples containing a large percentage of sugar were examined for arsenic. In no case was any found.

The samples of sweets were found as usual to contain glucose and coal tar dyes. The Departmental Committee on preservatives, &c., already referred to,

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\* Since writing the above, the report has appeared, and the Board of Agriculture have issued regulations which will come into force on May 15th, 1902, fixing the standard at 16 per cent. of water.

expressed the opinion, that a Court of Reference or the Local Government Board should draw up a schedule of colouring matters which may be regarded as likely to prove dangerous to public health.

In the absence of such a schedule the samples of sweets have been returned as genuine, since they contained no metallic poison, and the dyes present were as far as could be judged of a harmless nature.

Two samples of jam and one of marmalade contained small quantities of glucose, and three samples of jam were preserved by salicylic acid.

Three samples of cocoa we found to be composed of mixtures consisting of 54 per cent. cocoa, 16 per cent. starch and 30 per cent. of sugar.

One sample of pepper contained an excess of pepper hull, and one sample of mustard was very badly adulterated with starch and turmeric.

One sample of camphorated oil contained an excess of camphor.

The only sample of tinned peas (an Italian brand) examined contained copper sulphate equal to '004 of metallic copper.

Out of five samples of sausages, three were artificially coloured, and also preserved with borax, and one was preserved with borax but uncoloured. In view of the report of the Departmental Committee on Preservatives, &c., these have been returned as genuine.

(Signed) M. WYNTER BLYTH.







